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the american journal of sociology

Volume 73 Number 1 July 1967

The Social Psychology of the Gift

Barry Schwartz

ABSTRACT

In the first section of this essay gift exchange is discussed in terms of its relevance for the development and maintenance of identity. The acceptance of a gift, it is suggested, is in fact an acceptance of the giver's ideas as to what one's desires and needs are. Gift giving as a mode of social control and expression of unfriendliness is considered. The relationship between gift exchange and social structure is analyzed from the standpoint of the "gratitude imperative." The essay is concluded with a treatment of benefit exchange as a technique for the regulation of shared guilt.

THE GIFT AS A GENERATOR OF IDENTITY

Differential emphasis has been placed upon form and content in social analysis. Simmel's discussion of "sociability" is perhaps the most radical statement on form in social life, for it is with regard to this mode of sociation that content is asserted to be of no consequence.[1] Goffman expresses a similar idea, the "Rule of Irrelevance," in his essay "Fun in Games." The content of the game, as that of sociability, must be "self-sufficient" or irrelevant to the relationship between players in non-game encounters.[2] This is especially true of the gift, over whose contents an excessive display of pleasure or displeasure would affront the giver, violate the Rule of Irrelevance, and take the entire encounter out of the sphere of "pure" sociability.

The rules of self-sufficiency or irrelevance must not be understood to imply that the contents of things can be stripped of their meanings. Thus, despite the principle which subordinates the content or quality of the gift to its significance as a token of the social relationship itself, it is clear that the presentation of a gift is an imposition of identity.

Gifts are one of the ways in which the pictures that others have of us in their minds are transmitted. This point is seen in recurrent controversies over the prevalence of "war toys" on American gift lists. And the function of "masculine" and "feminine" gifts relative to sexual identification is clear enough. By the giving of different types of "masculine" gifts, for example, the mother and father express their image of the child as "a little soldier" or "a little chemist or engineer." Doubtlessly, an analysis of the gift-buying habits of parents would be a significant contribution to our knowledge of socialization. One important aspect of such an investigation would surely focus upon the increasing popularity of educational toys, the bisexual distribution of which may contribute to and reflect the

[1] Georg Simmel, "Sociability" in Kurt Wolff (ed.), *The Sociology of Georg Simmel* (New York: Free Press, 1950), pp. 40–55.

[2] Erving Goffman, "Fun in Games" in *Encounters* (New York: Bobbs-Merrill Co., 1961), p. 19.

lessening differentiation of American sex roles.

The gift as an imposition of identity is well seen in its burlesqued form, the "Office Pollyanna," the ideal type of which obtains when gift recipients are chosen at random and presented with inexpensive items which make comical or witty reference to that part of their personal makeup which, in the eyes of the giver, is most worthy of exaggeration.

If gift giving socializes and serves as a generator of identity, it becomes necessary to acknowledge the existence of gifts which facilitate or impede maturation. One way in which upwardly mobile parents cause anxiety in their children is to provide gifts for which they are not yet ready—or even gifts whose level they have long ago outgrown. In this light, regressive possibilities exist on both sides of every gift-giving relationship. What has been implied here is that gift giving plays a role in status maintenance and locomotion. This is illustrated best in the "rites of passage" which gifts normally accompany. In such instances, they not only serve the recipient (e.g., a newlywed) as tools with which to betray more easily his or her former self but symbolize as well the social support necessary for such a betrayal.

THE GIVER

The gift imposes an identity upon the giver as well as the receiver. On the one hand, gifts, as we noted, are frequently given which are consonant with the character of the recipient; yet, such gifts reveal an important secret: the idea which the recipient evokes in the imagination of the giver. This point enables us to appose to Cooley's recognition of the social looking glass an additional source of self-concept: this is our "ideas of others"—which, when made public, are self-defining. Indeed, gift giving is a way of free associating about the recipient in his presence and sometimes in the presence of others. This principle is recognized by the maker of a last will who is obliged to distribute benefits among two or more persons. The identity he thereby generates for himself is perhaps the most important of a long career of identity pronouncements, for it is his last—and is unalterable.

The act of giving is self-defining in a more direct way. Men tend to confirm their own identity by presenting it to others in objectified form. An extreme instance of this type of self-presentation is the display of masculinity through the giving of gift cigars following the birth of a child. Emerson, in fact, has suggested that this tendency toward self-objectification be made explicit (and in so doing provides insight into that which the new father's gift cigar symbolizes):

> The only gift is a portion of thyself. . . . Therefore the poet brings his poem; the shepherd, his lamb; the farmer, corn; the miner, a gem; the sailor, coral and shells; the painter, his picture; the girl, a handkerchief of her own sewing. This is right and pleasing, for it restores society in so far to its primary basis, when a man's biography is conveyed in a gift.[3]

It is common knowledge that men present themselves publicly by the conspicuous presentation of gifts. Generous contributions to charity have always been a source of prestige in the United States. This is especially true when such gestures are made by individuals rather than corporations, and has been carried to an extreme by the members of movie society, for whom giving is an aspect of public relations. But professional fund raisers recognize this tendency in general society as well and therefore provide "I Gave" stickers which are generally affixed to the front door as certification of the family's willingness and ability to give away wealth. The charity potlatch is an important mode of the public presentation of self.

In middle- and upper-class society, the wife is a ceremonial consumer of goods, for

[3] Ralph Waldo Emerson, "Gifts," in *Emerson's Essays* (Philadelphia: Spencer Press, 1936), p. 358.

decency "requires the wife to consume some goods conspicuously for the reputability of the household and its head."[4] Thus, the husband elaborates his identity by the bestowal of gifts upon the wife, who becomes the public exponent of his selfhood. Children, furthermore, are more and more assuming the role of family status representatives as the adult female moves from the social to the economic sphere. The gift presentation of automobiles and other expensive items to children and teenagers testifies to this drift. Of course, the negative side of an excessive giving—receiving ratio in favor of the parents consists of a denial to the child of those rewards to selfhood which accompany the giving of gifts, the chief of which is an image of oneself as a source of gratification to others.

This leads into the interesting area of the giving of gifts to oneself. This is normally spoken of in terms of "self-indulgence," opposition to which, stripped to its essentials, represents an unwillingness on the part of the ego to strike a bargain with the id. This inflexibility is dangerous when other people (as sources of satisfaction) are not available, for it makes adjustment to hostile or impersonal environments unlikely. Deprived of material demonstrations of recognition from others, the internalization of such disregard can only be avoided by the utilization of oneself as a source of pleasure. The "self-gratifier" is an interesting product of the non-intimate community who, despite his pervasiveness, has received little attention from the social sciences. This is the person who, without significant affectional bonds, somehow makes it through life in one piece. He creates his own (emotional) "nutrition" and survives.

GIFT REJECTION

Earlier, in our treatment of the gift as an imposition of identity, it was suggested that the acceptance of a present is in fact an acceptance of the giver's ideas as to what one's desires and needs are. Consequently, to accept a gift is to accept (at least in part) an identity, and to reject a gift is to reject a definition of oneself. It follows that the receipt of gifts from two incompatible persons or groups raises questions as to the real source of one's identification.

At another extreme are found outright rejections of gifts with a conscious view to affirming the selfhood whose status an acceptance would threaten. A radical illustration from Ruth Benedict makes this type of reaction clear in our minds:

> Throw Away invited the clan of his friend to a feast of salmon berries and carelessly served the grease and berries in canoes that had not been cleaned sufficiently to do them honor. Fast Runner chose to take this as a gross insult He refused the food, lying down with his black bear blanket drawn over his face, and all his relatives, seeing he was displeased, followed his example [5]

The covering of the face suggests that Fast Runner is defending himself against the disparaging definitions of his selfhood which the dirty canoes imply. And from the standpoint of the giver of the rejected gift, we see an immediate world that has somehow lost its dependability. As Helen M. Lynd notes, the giver trusts himself to "a situation that is not there" and is thereby forced to cope with the dilemma of shame.

GIFT EXCHANGE, CONTROL AND SUBORDINATION

Levi-Strauss has written that "goods are not only economic commodities but vehicles and instruments for realities of another order: influence, power, sympathy, status, emotion; and the skillful game of exchange consists of a complex totality of maneuvers, conscious or unconscious, in order to gain security and to fortify one's self against

[4] Thorstein Veblen, *The Theory of the Leisure Class* (New York: Modern Library, 1934), p. 83. See also pp. 85, 149.

[5] Ruth Benedict, *Patterns of Culture* (New York: Mentor Books, 1960), pp. 175–76.

risks incurred through alliances and rivalry."[6] In other words, the regulation of one's bonds to others is very much part of the matter of the exchange of goods. Similarly, Homans and Malinowski have convincingly argued that men are less constrained in their actions by separate controlling activities and institutions than by obligations which they incur in reference to one another.[7] Furthermore, it is generally true that men maintain ascendancy by regulating the indebtedness of others to them. An exaggerated instance of this is described in Korn and McCorkle's essay on prison socialization:

> Once an inmate has accepted any material symbol of service it is understood that the donor of these gifts has thereby established personal rights over the receiver. The extreme degree to which these mutual aid usages have been made dependent to power struggles is illustrated by the custom of forcing other inmates to accept cigarettes. . . . Aggressive inmates will go to extraordinary lengths to place gifts in the cells of inmates they have selected for personal domination. These intended victims, in order to escape the threatened bondage, must find the owner and insist that the gifts be taken back.[8]

The principle of reciprocity, then, may be used as a tool in the aspiration for and protection of status and control. William F. Whyte, for instance, notes that the leader takes care not to fall into debt to his followers but to insure, on the contrary, that the benefits he renders unto others are never fully repaid.[9] Parents are especially aware of the fact that the child pays the cost of social inferiority when he accepts a gift from them and fails to reciprocate. "What is more," notes Homans, "he may, in becoming an inferior, become also a subordinate: the only way he can pay his debt may be to accept the orders of the giver."[10] This principle is perhaps nowhere better seen than through the character of Santa Claus, the greatest of all gift givers, whose powers of surveillance and ability to grant and withhold benefits are annually exploited by parents as instruments of control over their children.

Santa Claus should not be taken lightly by the sociologist for, as we have seen, he plays an important role with respect to social control.[11] It must also be noticed that he is not only a Christian but a Caucasian—and a blue-eyed Nordic one at that. This has particular significance for the non-Christian and non-Caucasian. That little Jewish boys and girls, for example, must depend upon a blue-eyed Christian for their gifts may lead to many hypotheses concerning the role of the myth in general and of St. Nicholas in particular with respect to ethnic dominance. Most Jewish parents are very aware of Santa's great seductive powers and of his ability to confound the developmental problem of ethnic identification. Therefore, the existence of Santa Claus is sometimes denied straightaway, and in his stead the hero of

[6] Claude Levi-Strauss, "The Principle of Reciprocity" in Lewis A. Coser and Bernard Rosenberg (eds.), *Sociological Theory* (New York: Macmillan Co., 1965), p. 76. Similarly, Michael Polanyi is quoted by Norman Brown: "He [man] does not act so as to safeguard his individual interest in the possession of material goods; he acts so as to safeguard his social standing, his social claims, his social assets" (Brown, *Life against Death* [New York: Random House, 1959], p. 262).

[7] George C. Homans, *The Human Group* (New York: Harcourt, Brace & World, 1960), pp. 284–92; Bronislaw Malinowski, *Crime and Custom in Savage Society* (Paterson, N.J.: Littlefield, Adams & Co., 1959), pp. 58, 59.

[8] Richard Korn and Lloyd W. McCorkle, "Resocialization within Walls," *Annals of the American Academy of Political and Social Science*, CCXCIII (May, 1954), 90.

[9] William F. Whyte, *Street Corner Society* (Chicago: University of Chicago Press, 1964), p. 258.

[10] George C. Homans, *Social Behavior: Its Elementary Forms* (New York: Harcourt, Brace & World, 1961), p. 319.

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Incidentally, the above point, it seems, is relevant to the area of public assistance, where there has been some debate about whether benefits to the needy should be given in the form of cash or goods. Social workers are more prone to argue in favor of the former alternative, often on the basis of its implications for the psychological autonomy of the recipient. Opponents of this policy argue that the presentation of money severely limits the welfare department's band of control, for cash may be spent on disapproved commodities. Its abstractness dissolves the authority of the giver, which is inherent in concrete items.

GIFT GIVING AS AN UNFRIENDLY ACT

Once a connection is made between gift exchange and social control, it becomes necessary to explore the possibility of unfriendliness as a component of gift giving. One need not look far before ample evidence for such a possibility is found. Lowell's assertion that "a gift without the giver is bare" implies that sincere affection is not a necessary correlate of gift presentation. But the popular warning, "Never look a gift horse in the mouth," is an even more direct acknowledgment of gifts as expressions of hostility. And the practical joke is an instance of man's need to give gifts which hurt or embarrass the recipient: "hot" chewing gum, cigars that blow up, gift-wrapped boxes containing a replica of a portion of feces, etc., are all purchased with a view to the direct or indirect satisfaction of this need.

The very nature of the gift exchange provides a condition for unfriendliness. Although gift giving is itself rewarding (in ways to be later described), it is accompanied by obvious deprivation as well, for the giver presents to another that which could have been employed for self-gratification. While he may receive a gift in return, there is certainly some loss of personal control over income and output of goods and money. The recipient in this light becomes a depriver about whom various degrees of ambivalence may emerge.

But the most obvious instance of hostility in gift exchange is found in the potlatch, which has as an essential aim the degradation of the recipient. Among the Arapesh, for example, a *buanyin* or exchange partner is assigned in early male adolescence. It is the duty of the *buanyins*, writes Mead, to insult one another continually and to try to outdo one another in gift exchange.[13] But it is the Kwakiutl who carry this practice to its extreme. Here, the boy who receives his first gift selects another person to receive a gift from him.

[12] Simmel, "Faithfulness and Gratitude," *op. cit.*, pp. 390–91.

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"When the time came for repayment if he had not double the original gift to return as interest, he was shamed and demoted, and his rival's prestige correspondingly enhanced."[14]

Benedict describes the phenomenon at greater length:

> The whole economic system of the Northwest Coast was bent to the service of this obsession. There were two means by which a chief could achieve the victory he sought. One was by shaming his rival by presenting him with more property than he could return with the required interest. The other was by destroying property. In both cases the offering called for return, though in the first case the giver's wealth was augmented and in the second he stripped himself of goods. The consequences of the two methods seems to us at the opposite poles. To the Kwakiutl they were merely complementary means of subduing a rival, and the highest glory of life was the act of complete destruction. It was a challenge, exactly like the selling of a copper, and it was always done in opposition to a rival who must then, in order to save himself from shame, destroy an equal amount of valuable goods.[15]

Marcel Mauss was rightly struck by the similarity between the potlatch and conspicuous spending in the twentieth century.[16] He neglected, however, to indicate that it was Veblen who had done the most extensive study of "conspicuous waste" in his *Theory of the Leisure Class*. The goals of such waste are essentially those directing the Kwakiutl: extravagant provision of commodities is made with a view to shaming the consumers, especially those who openly compete with the host in such matters as feasts, balls, and other social events.[17]

One expresses unfriendliness through gift giving by breaking the rule of approximate reciprocity (returning a gift in near, but not exact, value of that received). Returning "tit for tat" transforms the relation into an economic one and expresses a refusal to play the role of grateful recipient. This offense represents a desire to end the relationship or at least define it on an impersonal, non-sentimental level. An exact return, then, is essentially a refusal to *accept* a "token of regard," which is to Mauss, "the equivalent of a declaration of war; it is a refusal of friendship and intercourse."[18]

Both gift giver and receiver evaluate presents according to some frame of reference. A giver may therefore express contempt for the recipient by purchasing for him an inferior gift (in comparison with his gifts to others). Thus unfriendliness is shown by the mere invocation of a frame of reference. This mechanism, of course, is what enables the last will and testament to become partly an instrument for the expression of hostility.

We might also mention the object-derogation ritual by means of which the gift to be presented is "cursed." This ritual is reserved especially for those occasions where a presentation of a token of regard is mandatory. Thus children, in relaying a Christmas gift from their parents to the teacher, will feign a spit upon the package —or suggest its use as toilet paper, with an indecent gesture. Such rituals have as their purpose the "contamination" of the item with unfriendly sentiment. The ritual yields its fruit when the teacher accepts the contaminated gift with pleasure and thanks. On the other hand, the recipient may be aware of the contempt of the giver and, though obliged to accept the gift, may prevent contamination by destroying it, failing to use it, forgetting about it, etc.

Gifts may reflect unfriendliness in at least two final ways. First, the gold watch presented at retirement is normally more representative of a feeling of good riddance than of recognition for achievement; it is indeed a gilded "pink slip." Lastly, psy-

[14] Benedict, *op. cit*, p. 169.

[15] *Ibid*., p. 172.

[16] Marcel Mauss, *The Gift* (London: Cohen & West, 1954), p 4.

[17] Veblen, *op. cit*., p. 75.

[18] Mauss, *op. cit*., p 11.

choanalytic theories of symbolism suggest that death wishes may be expressed in such gift objects as electric trains, satin blankets, ships, and other vehicles which take "long journeys." Inasmuch as such theories are valid, the popularity of electric trains as Christmas gifts has enormous implications.

UNFRIENDLINESS IN THE RECIPIENT

What has been said about unfriendliness in gift giving should not draw attention away from hostility in the receiver. Ralph Waldo Emerson reminds us of this point in his essay:

> The law of benefits is a difficult channel, which requires careful sailing. . . . We wish to be self sustained. We do not quite forgive a giver. The hand that feeds us is in some danger of being bitten. We can receive anything from love, for that is a way of receiving it from ourselves; but not from *anyone* who assumes to bestow. We sometimes hate the meat which we eat, because there seems something of degrading dependence in living by it.[19]

Emerson here suggests that an understanding or meaningful analysis of gift exchange requires a knowledge of the relationship between giver and receiver.

STATUS ANXIETY

The possibility of unfriendliness in the gift exchange is recognized by most people. This is best supported by reference once again to popular slogans and proverbs which warn against being deceived by the gift. Translated sociologically, there is a general awareness that gift givers and receivers do not always believe in the role they are playing: the thought behind the gift may run anywhere from cynicism to sincerity. Insofar as persons employ one another as "social looking glasses," this variability in role sincerity gives rise to an uncertainty which may be called "status anxiety." Yet, it might also be suggested that the cynical giver (or the cynical role player, in general) is himself plagued by two sources of discomfort: there exists both the fear of "being found out" and a degree of guilt over the insincerity itself. When ambivalence reaches a certain point, the *compulsive* gift giver emerges who protects himself from both guilt and the unmasking anxiety by ritualistic presentations. In general, then, the ritual of gift exchange is not understandable by its anxiety-reducing qualities alone; it is itself a generator of anxiety, for if it is not properly executed, the public front of sincerity is likely to be jeopardized.

AWARDS

Gifts as ceremonial tokens of regard may be distributed analytically into two overlapping categories: those presented in recognition of status and those presented in recognition of achievement. In the former grouping are found Christmas, birthday, and anniversary gifts, Mother's Day and Father's Day presents, and so forth. We find the purest forms of the achievement gift in prizes, trophies, etc. Mixed forms involve achievement gifts for persons of a certain (usually kinship) status, for example, graduation presents.

It is important, however, to note that status gifts are often presented *publicly* as achievement gifts. Levi-Strauss, for example, writes, "the refinement of selection [of Christmas cards], their outstanding designs, their price, the quantity sent or received, give evidence (ritually exhibited on the mantlepiece during the week of celebration), of the recipient's social bonds and the degree of his prestige."[20] Thus status and achievement gifts share a characteristic which provides insight into one of their more important properties: both are objectifications of past or present social relationships. The ceremonial display of such objectifications is a powerful tendency in social life: persons invariably seek to make known their social bonds in daily encounters. Veblen suggests that in advanced societies this tendency "develops into a system of rank titles, degrees and in-

[19] Emerson, *op. cit.*, p. 359.

[20] Levi-Strauss, *op. cit.*, p. 77.

signia, typical examples of which are heraldic devices, medals and honorary decorations."[21] The presentation of self, then, is often made with symbols of one's connections to others. And gifts represent the purest forms of such symbols. These may of course be displayed with such elaboration and ostentation as to bring down the displeasure of the audience. Thus, the gift diamond, automobile, or other trophies must be displayed tactfully and with a certain degree of humility.

GIFT EXCHANGE, RECIPROCITY AND DISTRIBUTIVE JUSTICE

Gift exchange is governed by the norm of reciprocity. The degree to which this norm has been fulfilled in a given exchange of gifts may be stated in terms of distributive justice, which obtains when social rewards are proportional to costs and to investments. The concept of distributive justice is important in itself for it leads to interesting and non-obvious statements about human behavior. The principle tells us, for example, that a gift giver will experience discomfort if reciprocity fails to occur; but the idea that over-reciprocation will produce disturbance in the original giver is more interesting and leads into the area of undeserved rewards, to which shame, according to Helen M. Lynd, is connected.[22] The use of a reward (often in the form of a gift) *as a punishment* is a device employed by many sets of contemporary "love-oriented" parents and may be subsumed under the general category of "shaming techniques," which consist of three separate operations: (1) the provision for the child of an unfavorable derogation-praise ratio, (2) the presentation of a gift, and (3) a verbal declaration of the lack of commensurability between the child's merit and the gift he has received. ("Daddy and mommy are giving you a present even though you've been a bad boy!") Shame is therefore doubly established by a statement of one's knowledge of another's sins and the giving of a reward despite them.

Distributive justice is particularly interesting in view of the rule which prohibits an equal-return "payment" in gift exchange. This suggests that every gift-exchanging dyad (or larger group) is characterized by a certain "balance of debt" which must never be brought into equilibrium, for a perfect level of distributive justice is typical of the economic rather than the social exchange relationship. It has, in fact, already been suggested that the greater the correspondence in value between gift received and gift returned, the less the sentimental component in the relationship is likely to be. But this proposition needs to be qualified by our noting that an absence or inadequate amount of reciprocity is not at all functional for the intimate relationship. There exists, then, a band—between complete and incomplete or inadequate reciprocity—within which the giver of the return gift must locate its value.

The continuing balance of debt—now in favor of one member, now in favor of the other—insures that the relationship between the two continue, for gratitude will always constitute a part of the bond linking them. Gouldner, in this connection, considered gift exchange as a "starting mechanism" for social relationships.[23] Simmel likened the phenomenon to "inertia" in his essay on "Faithfulness and Gratitude":

> An action between men may be engendered by love or greed of gain, obedience or hatred,

[21] Veblen, *op. cit.*, p. 44.

[22] Helen M. Lynd, *On Shame and the Search for Identity* (New York: Harcourt, Brace & Co., 1958), p. 34. For a discussion of this topic in terms of balance theory, see C. Norman Alexander, Jr., and Richard L. Simpson, "Balance Theory and Distributive Justice," *Sociological Inquiry*, XXXIV (Spring, 1964), 182–92. Homans' rule of distributive justice is stated in his *Social Behavior* (n. 10 above), p. 75.

[23] Alvin Gouldner, "The Norm of Reciprocity: A Preliminary Statement," *American Sociological Review*, XXV (April, 1960), 176–77.

sociability or lust for domination alone, but this action usually does not exhaust the creative mood which, on the contrary, somehow lives on in the sociological situation it has produced. Gratitude is definitely such a continuance. . . . If every grateful action, which lingers on from good turns received in the past, were suddenly eliminated, society (at least as we know it) would break apart.[24]

It must be noted that gratitude binds not only the living, but connects the living and the dead as well. The will is an institutionalization of such a connection. Inherited benefits, insofar as they cannot be reciprocated, generate eternal indebtedness and thereby link together present and past. Thus the absence of a sense of family tradition among the poor is due not only to familial instability, for example, "serial monogamy," but to a lack of willable commodities, that is, gratitude imperatives.

Simmel makes another important observation which implies that every gift-exchanging dyad is characterized by a moral dominance of one member over another. This has to do with the initiation of benefit exchange:

Once we have received something good from another person, once he has preceded us with his action, we no longer can make up for it completely, no matter how much our return gift or service may objectively or legally surpass his own. The reason is that his gift, because it was first, has a voluntary character which no return gift can have For, to return the benefit we are obliged ethically; we operate under a coercion which, though neither social nor legal but moral, is still a coercion. The first gift is given in full spontaneity; it has a freedom without any duty, even without the duty of gratitude.[25]

Following the same line of thought leads us to observe the tendency for initial aggression to be opposed with a disproportional amount of hostility, for the original aggressive act contains the decisive element of freedom. The object of the initial attack justifies his own retaliation, no matter how superior or devastating it may be, by simply noting the voluntary character of the original hostility. It is perhaps for this reason that vengeance is restrained in ancient (*lex talionis*) and modern law—and in moral interdictions as well. ("Vengeance is mine, saith the Lord.")

In order to draw our discussion on obligation balance to its logical completion, we are required to note that, while a gift exchange of items of nearly equal value generates gratiutde, which binds the relation long after the exchange has actually taken place, an absence of reciprocity will inject into the bond an element of hostility that will be equally persistent. Simmel, then, failed to recognize the negative consequences of the norm of reciprocity, which prescribe vengeance, or at least grudge, for harm done, just as their counterparts call for reimbursement and gratitude for benefits received. It is, in this regard, worth noting that man could not altogether cease to show vengeance without ceasing to show gratitude as well, for both reflect and depend upon the internalized imperative of reciprocity.

SUSPENSE AND SOCIAL EXCHANGE

We have just completed a discussion of that quality of gift exchange which provides a social relationship with inertia, in the form of gratitude or grudge. It remains to point out that the gift has a binding effect upon the relation before it is actually given and received. The growing cohesion of two potential exchangers, for example, obviously results from mutual expectation of a gift. Now, mutual expectation is reflective of an important fact about social life; that is, its easy predictability: the institutionalization of social action provides for this. But the substance of social life is as unpredictable as its form is certain—and this property of social exchange saves us from the tedium of perfect knowledge.

Without suspense, the entire tone of the gift exchange is altered—and with it, the

[24] Georg Simmel, "Faithfulness and Gratitude," *op. cit.*, p. 389.

[25] *Ibid.*, p. 392.

relationship, which is correspondingly deprived of its mystery and surprise. Gifts are hidden or kept secret for the sake of the giver as well as the receiver for, as noted, the recipient's reaction to the present is crucial to the giver.

Suspense is most prevalent in childhood, since gifts differ greatly from year to year as a result of maturation. In contrast, the adult's status is more stable, and the types of gifts he receives will normally follow a set pattern.

SUSPENSE AND INSULATION

Although suspense develops gradually, it ends abruptly when the unknown gift is revealed. Therefore, if suspense were the only constituent of the impending gift exchange, its consummation would immediately plunge the exchange partners into boredom. To some degree, this is general throughout society, as the "after-Christmas letdown" testifies. However, gift exchange is insulated by other less suspense-producing events, for example, the feast and church services, family get-togethers, leisure-time activities, etc., which immediately follow the exchange. Through such insulating devices the post-exchange "letdown" is cushioned. It is implied here, of course, that persons participating in the feasts, reunions, and whatnot be *outside* the circle of gift exchangers.

The foregoing account of insulation is a specific instance of the more general principle that a certain degree of group incohesion is functional for its preservation as far as the non-integration of its parts prevents an externally imposed shock from permeating its entire system.[26] Thus, while each exchange circle experiences the "after-Christmas letdown" individually, the shock is irrelevant to their coming together for feasting and sociability; thereby the distant circles provide for one another the support which the constituents of a single system would fail to give by force of their integration.

It therefore becomes meaningless to speak, as Gouldner does, of need satisfaction being related to the degree of dependence of one object upon another,[27] for our discussion has shown this notion to be too static for social analysis. It is clear that members of a social circle may be resourceful to one another up to a certain point in time, after which they must turn from each other to other circles for support or gratification. This has been shown to be the case in Christmas gift exchange, and, if space permitted, other examples could be cited. Our time, however, would be more profitably employed by noting that the process we have just described is subsumable under the property of "autonomy toleration," which provides for the system's periodic setting free of its members to find "rescue persons" outside its own boundaries and thus to remind its members of its own mortality and replaceability.[28] The check on a group's encompassing tendencies is institutionalized in conventional society by such mechanisms as the wife's and husband's "night out" for cards or bowling, or the more extended "trips home" and "camping expeditions." Gift exchange with persons outside of the immediate social circle is an especially important instance of this use and maintenance of outsiders as resource persons.

GROUP BOUNDARIES, DEVIANCE AND GUILT

Those to whom we give gifts are in some way different from those to whom no token of regard is given. The gift exchange, then, is a way of dramatizing group boundaries. As Arensberg and Kimball point out, it is also a mode in which a child learns to adopt requisite behavior and sentiments toward

[26] Alvin Gouldner, "Reciprocity and Autonomy in Functional Theory," in Llewellyn Gross (ed.), *Symposium on Sociological Theory* (Evanston: Row, Peterson & Co., 1959), p. 253.

[27] *Ibid.*, p. 254.

[28] I owe the idea of "autonomy tolerance" to Dr. Otto Pollack, who presented the concept in his lectures.

those with whom others in his family are bound:

> Thus the Irish child very early meets his mother's and father's brothers and sisters; he runs errands and receives small gifts from them; as soon as he is able he carries presents. . . . At various times of crisis in his career, such as First Communion, Confirmation, and marriage, he receives gifts from them which signalize the intimacy between him and them.[29]

Moreover, when a single present is offered to a plurality, for example, a married or engaged couple, or a family, there is a heightening of awareness (on both sides) of their existence as a team.

Before going on it should be noted that the boundary-maintaining functions which have just been noted are opposed by the property of autonomy tolerance. There is a constant tension between these poles—which underlies the fact that every social circle is characterized by a certain (quantifiable) ratio of intragroup-extragroup benefit exchanges. Put differently, gift exchange influences group boundaries by clarifying them; and the more group boundaries are defined, the greater the favorability of intragroup over extragroup exchange. This effect, however, is limited by the property of autonomy tolerance. Out of this tension, perhaps, emerges an exchange ratio equilibrium.

Social rankings are also reflected in and maintained by the gift, for the allocation of presents, in terms of quantity or quality, is normally co-ordinate with the social rank of the considered recipients. The obligation to present gifts, then, brings people into comparison who would ordinarily not be contrasted with one another.

Importantly, the gift-giving ritual helps to maintain social stability insofar as it enables members to cope with their own consciences. If the group provided no means of atonement for sins, it would surely disintegrate, for the shame that its very existence would call forth within each member would make that existence intolerable. The gift, then, is an important tool for the mending of deviations. Norman Brown, for example, has suggested that "giving is self-sacrificial; self-sacrifice is self-punishment."[30] Thus, man "gives because he wants to lose."[31] In this sense, asserts Brown, reciprocity in gift exchange implies that "social organization is a structure of shared guilt . . . a symbolic mutual confession of guilt."[32] And one of the functions of God is to structure the human need for self-sacrifice.[33]

Although we may disagree with Brown in his implication that gift exchange is "nothing but" an expression of guilt, we must agree that guilt may be an important component of many exchanges, and add that the strengthening of the social bond is a consequence of the *sacrificial gift*. Mauss and Hubert, in this connection write:

> At the same time they find in sacrifice the means of redressing equilibriums that have been upset: by expiation they redeem themselves from social obloquy, the consequence, and re-enter the community. . . . The social norm is thus maintained without danger to themselves, without diminution for the group.[34]

The authors might have noted that most deviations are undetected by the group—and this ignorance, if not carried to an extreme, is functional for its continuation.[35] From this point of view an important latent function of sacrifice is the provision of atonement for *unseen* deviations.

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[29] Conrad M. Arensberg and Solon T. Kimball, *Family and Community in Ireland* (Cambridge, Mass.: Harvard University Press, 1940), p. 81.

[30] Brown, *op. cit.*, p. 266.

[31] *Ibid.*, p. 265.

[32] *Ibid.*, p. 269.

[33] *Ibid.*, p. 265.

[34] Henri Hubert and Marcel Mauss, *Sacrifice: Its Nature and Function* (Chicago: University of Chicago Press, 1964), pp. 102–3.

[35] See W. E. Moore and M. M. Tumin, "Some Social Functions of Ignorance," *American Sociological Review*, XIV (December, 1949), 787–95.

Some Behavioral Aspects of the Ecological Approach to Social Organization[1]

John H. Kunkel

ABSTRACT

Some problems involved in the ecological perspective—especially those concerning social organization—are outlined. A behavioral model of man based on learning principles is proposed, and its contribution to the solution of the problems is analyzed. It is shown that the structure of social relations and the determinants of activity may be profitably considered in terms of three sets of variables: (*a*) the operation of learning principles, (*b*) sociological factors which affect specific actions, and (*c*) ecological characteristics which limit the variation of behavior. It is concluded that the utilization of a behavioral model of man in the analysis of social organization does not lead to psychological reductionism, but instead requires the employment of sociological and ecological variables.

THE PROBLEMS

The recent literature of human ecology indicates that there is increasing divergence as to the definition, scope, and methodology of the ecological approach to the analysis of social organization.[2] It is the purpose of this article to briefly indicate the major problems presently facing the ecological perspective and to outline the chief sources of these difficulties. A method of reducing the problems will be proposed, and its efficacy in the analysis of social organization will then be indicated.

No matter how the major task of human ecology is conceived—to study "the developmental process as well as the form of man's adjustment to his habitat,"[3] "to identify the factors determining variations in [social] structure,"[4] to "account for the forms that social organization assumes in response to varying demographic, technological, and environmental pressures,"[5] or to explain the "variability in the characteristics of sustenance organization among populations"[6]—a number of problems are apparent in all modern ecological approaches to the study of social phenomena.

The first problem concerns the definition, measurement, and analysis of social organization—an element in any ecological study and often considered to be the dependent variable. Anthropologists, who concentrate their efforts on culture, have similar difficulties. Gibbs and Martin, for example,

[1] Support for the work reported here was provided in part by the University Grants Committee, Arizona State University.

[2] For a discussion of past accomplishments, present trends, and future needs of human ecology, see, e.g., Otis Dudley Duncan, "Social Organization and the Ecosystem" in Robert E. L. Faris (ed.), *Handbook of Modern Sociology* (Chicago: Rand McNally & Co., 1964), pp. 37–82; Otis Dudley Duncan and Leo F. Schnore, "Cultural, Behavioral, and Ecological Perspectives in the Study of Social Organization," *American Journal of Sociology,* LXV (September, 1959), 132–46; Jack P. Gibbs and Walter T. Martin, "Toward a Theoretical System of Human Ecology," *Pacific Sociological Review,* II (Spring, 1959), 29–36; June Helm, "The Ecological Approach in Anthropology," *American Journal of Sociology,* LXVII (May, 1962), 630–39; Leo F. Schnore, "The Myth of Human Ecology," *Sociological Inquiry,* XXXI (Spring, 1961), 128–39; and his "Social Morphology and Human Ecology," *American Journal of Sociology,* LXIII (May, 1958), 620–34.

[3] Amos H Hawley, *Human Ecology* (New York: Ronald Press, 1950), p. 72.

[4] Leo F Schnore, "Social Morphology and Human Ecology," *op. cit.* (n. 2), p 629.

[5] Duncan and Schnore, *op. cit.* (n 2), p. 144.

[6] Gibbs and Martin, *op. cit.* (n 2), p. 30.

speak of sustenance organization, Duncan and Schnore of social organization, Hawley of the human community, and Steward[7] of culture and society. At present there are no generally accepted definitions of these concepts, and the constituent elements of these phenomena vary from one investigator to the next. In most empirical studies these terms receive a minimal definition and are measured in terms of available data, ranging from census information to international trade statistics to ethnographic observation.[8] The conceptions of dependent variables are often quite gross, and in many cases it is not clear how the undifferentiated totality of "social organization" is illuminated by the data of the analysis. Consequently, it has been difficult for ecologists to establish a coherent discourse.

The second problem is the uncertainty concerning the nature and operation of the link between the environment and social organization, or however the independent and dependent variables are conceived. Terms such as influence, adaptation, interaction, adjustment, limitation, etc., abound, but the nature of the relationship is by no means clear; most studies are descriptive and result in a merely intuitive understanding of the relationship.[9] There seem to be three major reasons for the present difficulties in stating these relationships. First, the essential elements of the physical environment are often not clearly indicated. Population density, distance, resources, friction of space, agricultural potential, topography, transportation routes, etc., are among the major independent variables, but although they can be measured by themselves their combination into an "environment" with equally measurable characteristics has yet to be accomplished. Second, social organization is often so inadequately or grossly conceptualized that it is difficult to indicate exactly what aspects of social life and what types of social phenomena are related to the environment. Finally, since both social phenomena and the environment are quite complex, it may be expected that a number of different types of relationships hold between the components of these phenomena. Therefore, instead of speaking of *the* relationship between the environment and social organization, various aspects of one may have to be considered as being related to various aspects of the other, with each relationship being different. This would require the minute analysis of small-scale phenomena such as the length of time an area can support a specific population or the nature of the relationship between particular types of sustenance and specific other activities.[10] The scarcity of available data makes such an inquiry difficult and leads to the analysis of gross phenomena without adequate recognition of the variability and complexity of social phenomena.

The third problem concerns the role of activity and the status of individuals in human ecology. The primary interest of ecologists is the study of behavior—be it sustenance activities or the actions within and constituting social organization. An interest in behavior, however, raises questions regarding the *determinants* of action

[7] Julian H. Steward, "The Concept and Method of Cultural Ecology," in *Theory of Culture Change* (Urbana: University of Illinois Press, 1955).

[8] Some examples of such studies are: Calvin F. Schmid, Earle H. MacCannell, and Maurice D. Van Arsdol, Jr., "The Ecology of the American City," *American Sociological Review*, XXIII (August, 1958), 392-401; Jack P. Gibbs and Walter T. Martin, "Urbanization and Natural Resources: A Study in Organizational Ecology," *American Sociological Review*, XXIII (June, 1958), 266-77; and Julian H. Steward, "Lineage to Clan: Ecological Aspects of Southwestern Society," in *Theory of Culture Change*, *op. cit.* (n. 7).

[9] This is true especially of anthropologists' attempts, as illustrated in Lawrence Krader and Angel Palerm (eds.), *Studies in Human Ecology* (Washington, D.C.: Pan American Union, 1957).

[10] For an example of such a study, see Robert Carneiro, "Slash-and-Burn Agriculture: A Closer Look at its Implications for Settlement Patterns" (presented at the 5th International Congress of Anthropological and Ethnological Sciences, Philadelphia, 1956).

and the *relationships* among the great varieties of behavior found in a society. Activities do not exist by themselves, in limbo —*persons* act, and thus concern with behavior necessitates concern with individuals. Determinants of action operate through the individual, for example, and one activity affects another by means of influencing the individual who then acts. Since activities can be carried out only by individuals, ecologists must show at least a fleeting interest in individuals—even if it is no more than the simple specification of what type of postulate the individual becomes, or the relegation of individuals to limbo on the basis of adequate theoretical grounds. While ecologists agree on their interest in behavior, the role of individuals has not yet been specified. Some investigators state that individuals are essentially irrelevant in ecological studies since the emphasis is on population,[11] some hold that the individual enters ecology merely as a postulate,[12] and others believe that individuals with their feelings, sentiments, etc., are important variables.[13] Not only the role of individuals but also the nature of individuals needs to be clarified, for the recognition of individuals as actors should not automatically lead into the morass of psychoanalytic theories—interest centers on the individual as a performer of activities, not as a unique entity with an internal state subject to obscure psychic forces.

The problem of behavior and individuals has been further complicated by Homans' recent suggestion that there may be no sociological propositions but only psychological principles.[14] Such a viewpoint cannot help but support the belief of some ecologists that their approach is a means of saving sociology from subjugation to psychology.

Of these three problems, the last one is probably the most important since the others are to a large extent reflections of researchers' uncertainty regarding the activities of individuals and their role in social organization and its relationship to the environment. It is best, therefore, to begin with this problem and to indicate how its solution affects the others.

ACTIVITY AND THE INDIVIDUAL

The question of whether the behavior of individuals *should* be a part of the ecological approach to social organization has been answered by most ecologists in the affirmative. Gibbs and Martin, for example, conceive of a population as "an aggregate of individuals engaged in activities that provide them with a livelihood."[15] They hold that "sustenance activities of individuals are the primary data of human ecology," but they are careful to emphasize that an organization "is not made up of individuals but rather their activities." It is not clear, however, how activities can be separated from the individuals who perform them, unless the authors mean, simply, that activities rather than individuals are the primary focus of interest. According to Duncan,[16] ecologists study the interaction and interrelations among men and are especially concerned with information and communication. In an earlier statement, Duncan and Schnore indicate that "the elementary unit of analysis [in ecology] is the 'pattern of activity,' or simply 'activity.' "[17] In outlining the analytical procedure he calls cultural ecology, the anthropologist Steward begins with the behavior patterns most closely related to

[11] E g , Gibbs and Martin, *op. cit* (n 2), and Duncan and Schnore, *op. cit.* (n 2).

[12] E.g , Hawley, *op. cit.* (n. 3).

[13] E g , Walter Firey "Sentiment and Symbolism as Ecological Variables," *American Sociological Review*, X (April, 1945), 140–48.

[14] George C. Homans, "Bringing Men Back In," *American Sociological Review*, XXIX (December, 1964), 809–18; and his "Contemporary Theory in Sociology" in Faris (ed.), *op. cit.* (n 2), pp. 951–77.

[15] Gibbs and Martin, "Toward a Theoretical System of Human Ecology," *op. cit.* (n. 2); this and the following quotes are from page 30.

[16] Duncan, *op. cit.* (n. 2).

[17] Duncan and Schnore, *op. cit.* (n. 2), p 136.

sustenance and attempts to ascertain how these activities influence others.[18]

Ecologists are not only interested in sustenance activities, however. Behavior patterns which can be summarized as "interaction," and relationships among activities, are also analyzed. For example, Schnore indicates that "although the human ecologist's initial concern may be with the interaction between 'man and his total environment,' as a sociologist he inevitably turns to a study of the organized relations between man and man in the environmental setting";[19] and he quotes with approval Park's statement that in ecology it is "not man's relation to the earth which he inhabits, but his relations to other men, that concerns us most." Hawley, while interested mainly in the human community, considers a major concern of ecology to be the description of "how men relate themselves to one another in order to live in their habitats."[20] Duncan and Schnore point out that activity implies reciprocity, for a behavior pattern "cannot be conceived as apart from other activities."[21] Gibbs and Martin, finally, hold that ecology seeks to describe "the patterns of social relationships within the population that are manifested in sustenance activities."[22]

While ecologists hold that a population's adjustment to the environment is a collective response, it must be recognized that such responses as deep-sea fishing or dry-farming are, in the last analysis, labels attached to rather complicated sets of activities performed by individuals. For some purposes it is sufficient and even necessary to say that a population fishes, but it is questionable whether all types of analysis can be performed best on this level of abstraction. This is not to say, by any means, that the sociologist must always be concerned with the behavior of individuals. Rather, it is suggested that such an endeavor may at times be quite useful, especially when the *components* of social phenomena are analyzed.

It seems that the disregard of individuals, or at least many writers' unwillingness to fully recognize the activities of individuals and their implications for ecological analysis, stems from the danger that the recognition of the individual may lead to concern with psychological principles and the study of man's internal state, such as his feelings, sentiments, anxiety, etc. This fear, coupled with the belief that such concern has in the past proven rather sterile, is well expressed in the works of Duncan and Schnore. Recent statements by Homans[23] have not helped alleviate this fear, and recent applications of psychodynamic theories to social phenomena[24] have provided some support for such a belief. It is questionable, however, whether the sociologist's concern with the behavior of individuals must necessarily lead to the analysis of man's internal state.

According to Duncan and Schnore, the problem of the individual in ecology will be close to solution "once we fashion a suitable concept of the 'aggregate' not as a mere collection of individuals or as a simple distribution of personal traits but as an organized population which can be characterized by its patterns of activities."[25] Since both aggregates and organized populations consist of individuals, it might be added that a suitable concept of "individual" will also be necessary. As a first step in this direction, it is useful to determine

[18] Steward, "The Concept and Method of Cultural Ecology," *op. cit.* (n. 7).

[19] This and the following quote are from Schnore, "Social Morphology and Human Ecology," *op cit.* (n. 2) p. 632.

[20] Hawley, *op. cit.* (n. 3), p. 74.

[21] Duncan and Schnore, *op. cit* (n. 2), p. 137.

[22] Gibbs and Martin, "Toward a Theoretical System of Human Ecology," *op. cit* (n. 2), p. 30.

[23] Homans, *op cit.* (n. 14).

[24] The best examples are Everett E. Hagen, *On the Theory of Social Change* (Homewood, Ill.: Dorsey Press, 1962), and George K. Zollschan and Walter Hirsch (eds.), *Explorations in Social Change* (Boston: Houghton Mifflin Co., 1964).

[25] Duncan and Schnore, *op. cit* (n. 2), p. 135

and the *relationships* among the great varieties of behavior found in a society. Activities do not exist by themselves, in limbo—*persons* act, and thus concern with behavior necessitates concern with individuals. Determinants of action operate through the individual, for example, and one activity affects another by means of influencing the individual who then acts. Since activities can be carried out only by individuals, ecologists must show at least a fleeting interest in individuals—even if it is no more than the simple specification of what type of postulate the individual becomes, or the relegation of individuals to limbo on the basis of adequate theoretical grounds. While ecologists agree on their interest in behavior, the role of individuals has not yet been specified. Some investigators state that individuals are essentially irrelevant in ecological studies since the emphasis is on population,[11] some hold that the individual enters ecology merely as a postulate,[12] and others believe that individuals with their feelings, sentiments, etc., are important variables.[13] Not only the role of individuals but also the nature of individuals needs to be clarified, for the recognition of individuals as actors should not automatically lead into the morass of psychoanalytic theories—interest centers on the individual as a performer of activities, not as a unique entity with an internal state subject to obscure psychic forces.

The problem of behavior and individuals has been further complicated by Homans' recent suggestion that there may be no sociological propositions but only psychological principles.[14] Such a viewpoint cannot help but support the belief of some ecologists that their approach is a means of saving sociology from subjugation to psychology.

Of these three problems, the last one is probably the most important since the others are to a large extent reflections of researchers' uncertainty regarding the activities of individuals and their role in social organization and its relationship to the environment. It is best, therefore, to begin with this problem and to indicate how its solution affects the others.

ACTIVITY AND THE INDIVIDUAL

The question of whether the behavior of individuals *should* be a part of the ecological approach to social organization has been answered by most ecologists in the affirmative. Gibbs and Martin, for example, conceive of a population as "an aggregate of individuals engaged in activities that provide them with a livelihood."[15] They hold that "sustenance activities of individuals are the primary data of human ecology," but they are careful to emphasize that an organization "is not made up of individuals but rather their activities." It is not clear, however, how activities can be separated from the individuals who perform them, unless the authors mean, simply, that activities rather than individuals are the primary focus of interest. According to Duncan,[16] ecologists study the interaction and interrelations among men and are especially concerned with information and communication. In an earlier statement, Duncan and Schnore indicate that "the elementary unit of analysis [in ecology] is the 'pattern of activity,' or simply 'activity.'"[17] In outlining the analytical procedure he calls cultural ecology, the anthropologist Steward begins with the behavior patterns most closely related to

[11] E g, Gibbs and Martin, *op. cit.* (n. 2), and Duncan and Schnore, *op. cit.* (n 2).

[12] E.g., Hawley, *op cit.* (n. 3).

[13] E g., Walter Firey, "Sentiment and Symbolism as Ecological Variables," *American Sociological Review,* X (April, 1945), 140–48.

[14] George C. Homans, "Bringing Men Back In," *American Sociological Review,* XXIX (December, 1964), 809–18; and his "Contemporary Theory in Sociology" in Faris (ed.), *op. cit.* (n. 2), pp. 951–77.

[15] Gibbs and Martin, "Toward a Theoretical System of Human Ecology," *op. cit.* (n. 2); this and the following quotes are from page 30.

[16] Duncan, *op. cit.* (n. 2).

[17] Duncan and Schnore, *op. cit.* (n. 2), p. 136.

sustenance and attempts to ascertain how these activities influence others.[18]

Ecologists are not only interested in sustenance activities, however. Behavior patterns which can be summarized as "interaction," and relationships among activities, are also analyzed. For example, Schnore indicates that "although the human ecologist's initial concern may be with the interaction between 'man and his total environment,' as a sociologist he inevitably turns to a study of the organized relations between man and man in the environmental setting";[19] and he quotes with approval Park's statement that in ecology it is "not man's relation to the earth which he inhabits, but his relations to other men, that concerns us most." Hawley, while interested mainly in the human community, considers a major concern of ecology to be the description of "how men relate themselves to one another in order to live in their habitats."[20] Duncan and Schnore point out that activity implies reciprocity, for a behavior pattern "cannot be conceived as apart from other activities."[21] Gibbs and Martin, finally, hold that ecology seeks to describe "the patterns of social relationships within the population that are manifested in sustenance activities."[22]

While ecologists hold that a population's adjustment to the environment is a collective response, it must be recognized that such responses as deep-sea fishing or dry-farming are, in the last analysis, labels attached to rather complicated sets of activities performed by individuals. For some purposes it is sufficient and even necessary to say that a population fishes, but it is questionable whether all types of analysis can be performed best on this level of abstraction. This is not to say, by any means, that the sociologist must always be concerned with the behavior of individuals. Rather, it is suggested that such an endeavor may at times be quite useful, especially when the *components* of social phenomena are analyzed.

It seems that the disregard of individuals, or at least many writers' unwillingness to fully recognize the activities of individuals and their implications for ecological analysis, stems from the danger that the recognition of the individual may lead to concern with psychological principles and the study of man's internal state, such as his feelings, sentiments, anxiety, etc. This fear, coupled with the belief that such concern has in the past proven rather sterile, is well expressed in the works of Duncan and Schnore. Recent statements by Homans[23] have not helped alleviate this fear, and recent applications of psychodynamic theories to social phenomena[24] have provided some support for such a belief. It is questionable, however, whether the sociologist's concern with the behavior of individuals must necessarily lead to the analysis of man's internal state.

According to Duncan and Schnore, the problem of the individual in ecology will be close to solution "once we fashion a suitable concept of the 'aggregate' not as a mere collection of individuals or as a simple distribution of personal traits but as an organized population which can be characterized by its patterns of activities."[25] Since both aggregates and organized populations consist of individuals, it might be added that a suitable concept of "individual" will also be necessary. As a first step in this direction, it is useful to determine

[18] Steward, "The Concept and Method of Cultural Ecology," *op. cit.* (n. 7).

[19] This and the following quote are from Schnore, "Social Morphology and Human Ecology," *op. cit.* (n. 2) p. 632.

[20] Hawley, *op. cit.* (n. 3), p 74.

[21] Duncan and Schnore, *op. cit.* (n. 2), p. 137.

[22] Gibbs and Martin, "Toward a Theoretical System of Human Ecology," *op. cit.* (n. 2), p. 30.

[23] Homans, *op. cit.* (n. 14).

[24] The best examples are Everett E Hagen, *On the Theory of Social Change* (Homewood, Ill.: Dorsey Press, 1962); and George K. Zollschan and Walter Hirsch (eds), *Explorations in Social Change* (Boston: Houghton Mifflin Co, 1964).

[25] Duncan and Schnore, *op. cit.* (n. 2), p. 153

what kind of individual (i.e., conception of man) may be profitably utilized in the ecological perspective of social organization.

MODELS OF MAN

Ideas concerning the nature of man, combined with propositions about the important aspects of man which are of interest in a particular analysis, may be referred to as the model of man appropriate to a given study.[26] Since ecologists are interested in activity and social relationships, their model of man must include propositions concerning the determinants of behavior and the relationships among activities.

Although sociologists have a choice of at least two major groups of models of man, they usually consider only one group and base their work on one or another psychodynamic model. In these models individuals are postulated to have an internal state—the specific components of which vary with the psychological theory underlying the model—and the determinants of behavior are assumed to reside in the internal state. Relationships among men are also seen in terms of the internal state, as when a man's feelings, needs, anxiety, etc., are aroused or directed by the actions of others. Concepts arising from such models, for example, motives, needs, sentiments, conceptions, value orientation, etc., have become important components of many theories, variables, and analytical procedures.[27] As Duncan and Schnore point out, the presently popular social-psychological approach to the study of social phenomena has as its focus "one or another variety of mental behavior (e.g., attitudes, aspirations, and expectations), and these elements are organized most often into 'personality systems' or 'character types' "[28] which are assumed to determine overt activity. Environmental factors are considered to be of minor importance, and thus sociologists using such a model have little use for the ecological approach.

Much of the criticism directed against "individuals" in ecological analysis and sociology in general seems to be directed against the indiscriminate use of psychodynamic models of man. Critics have pointed out, for example, that at present the internal state of man is beyond the reach of available instrumentation and procedures of objective analysis, that many of the components of the internal state are derived from theories which have yet to be validated, and that the ambiguity and amorphous nature of most internal state elements makes theories relying upon them both questionable and difficult to test.[29] Finally, such models of man practically require that sociologists become not only psychologists but psychoanalysts since external forces are assumed to affect individuals primarily through the operation of the internal state. Such models are responsible, in Schnore's words, for "bartering our sociological heritage for a mess of psychological pottage."[30]

The roles which individuals are assumed to play in social phenomena and ecological processes are largely derived from the model of man which is used in the analysis. The ecologist, while unhappy with psychodynamic models and their implications, has not yet indicated what roles a different "type" of individual might play in his studies. That there is a need for defining

[26] See, e.g., Herbert A. Simon, *Models of Man* (New York: John Wiley & Sons, 1957).

[27] Conspicuous, large-scale examples of recent vintage are found in Talcott Parsons, *The Social System* (Glencoe, Ill.: Free Press, 1951); Hagen, *op. cit.* (n. 24); Zollschan and Hirsch, *op. cit.* (n. 24); David C. McClelland, *The Achieving Society* (Princeton, N.J.: D. Van Nostrand Co., 1961); and Tomás R. Fillol, *Social Factors in Economic Development, the Argentine Case* (Cambridge, Mass.: M.I.T. Press, 1961).

[28] Duncan and Schnore, *op. cit.* (n. 2), p. 136.

[29] One of the most searching critiques of psychodynamic models of man is Melvin H. Marx (ed.), *Theories in Contemporary Psychology* (New York: Macmillan Co., 1963).

[30] Schnore, "Social Morphology and Human Ecology," *op. cit.* (n. 2), p. 634.

the role of individuals in ecological analysis beyond the present furtive admission that they exist is indicated by Hawley, for example, according to whom the individual enters ecological investigations as a postulate and a unit of measurement.[31] The properties of this postulate and its theoretical and practical implications are not clearly evident, however, and thus the individual (even as a postulate) is neglected, as if by default. The determinants of sustenance activities and their consequences for other behavior patterns, the nature of various types of interaction and their implication for social organization—important elements in the works of the writers quoted so far—will remain unresolved problems until an acceptable model of man has been outlined.

Models of man and propositions concerning behavior are as numerous as are the psychological "schools" which give rise to them, and thus it is possible to search for alternative conceptions of man which are more acceptable to sociologists. The second major group of models presently available is based on one or another set of learning principles. These models postulate that behavior is learned within a social context and substitute objective procedures and careful experimentation for hypothetical components of man's internal state. One such model has been used (with qualifications) by Homans,[32] another by Miller and Dollard,[33] and men such as Mead, Jessor, Erasmus and others[34] have employed learning principles in various writings. Since a behavioral model of man based on learning principles has not yet been applied in the ecological approach to the analysis of social organization, it may be useful to investigate the utility of such a conception of man.

[31] Hawley, *op. cit.* (n. 3), p. 67.

[32] George C. Homans, *Social Behavior, Its Elementary Forms* (New York: Harcourt, Brace & Co., 1961).

[33] E.g., Neil Miller and John Dollard, *Social Learning and Imitation* (New Haven, Conn.: Yale University Press, 1941).

A BEHAVIORAL MODEL

A number of learning theorists have constructed more or less complete models of man, but only two models have had more than passing popularity among sociologists. Hull has provided Dollard, Miller, and others with a basis for a behavioristic interpretation of social phenomena, but today few sociologists use his theory. Mead has influenced a large number of investigators, but at present it is mainly social psychologists who continue to rely on him. More recently, and especially within the last fifteen years, a number of experimental psychologists have investigated learning procedures and principles without Hull's or Mead's emphasis on intervening variables, and it is now possible to construct a model of man on the basis of the empirical evidence they have gathered.

The behavioral model of man which is proposed in this paper is based on learning principles which have been investigated by one branch of experimental psychology. It is in line with the ideas expressed by Adler[35] and the work of Homans and differs from Homans' conception mainly in the disregard of internal elements such as expectations. The model—one of several which could be constructed on the basis of different learning theories—emphasizes observable activities and their objectively verifiable relations to preceding and simultaneous events and makes a minimum of inferences concerning man's internal state. Since much of the work upon which the model is based

[34] George H. Mead, *Mind, Self, and Society* (Chicago: University of Chicago Press, 1934); Richard Jessor, "A Social Learning Approach to Culture and Behavior," in Thomas Gladwin and William C. Sturtevant (eds.), *Anthropology and Human Behavior* (Washington, D.C.: The Anthropological Society of Washington, 1962); Charles J. Erasmus, *Man Takes Control* (Minneapolis: University of Minnesota Press, 1961).

[35] Franz Adler, "A Unit Concept for Sociology," *American Journal of Sociology*, LXV (January, 1960), 356–64; and his "The Value Concept in Sociology," *American Journal of Sociology*, LXII (November, 1956), 272–79.

has been performed quite recently, it may be expected that the provisional and relatively simple model described below will become somewhat more complex as additional information becomes available. The basic principles have received sufficient empirical support, however, to justify their combination into a distinct conception of man. The model's emphasis on observable action indicates that it is quite different from the conceptions which underlie the "behavioralistic approach" criticized by Duncan and Schnore.

The major postulate of the proposed model of man is that most behavior patterns, and especially those of interest to sociologists, are learned and maintained (or altered) by means of differential reinforcement; that is, the activities which a group or society defines as good or desirable are rewarded, others are not, and some may be punished. The most important principles which are involved in the learning and maintenance of behavior may be outlined as follows:[36]

1. Behavior (R) is established and maintained—or weakened—by *contingent stimuli*—either reinforcing (S^r) or aversive (S^a)—which follow it. More accurately, the presentation of S^r (loosely speaking, rewards) or the removal of S^a (loosely speaking, punishment) increases the probability that the behavior pattern will be repeated, whereas the presentation of an S^a or the removal of an S^r decreases the probability that the behavior pattern will be repeated in the future.

2. The effectiveness of any contingent stimulus for the shaping of behavior depends in large part on the *state variables* (SV), the person's characteristics of deprivation and satiation in a large number of different areas. Deprivation, which makes S^r effective through the capacity to reduce it, may be primary (i.e., largely physiological) or secondary (i.e., largely learned, or cultural). It may be expected, therefore, that deprivations and reinforcers will vary from one individual to the next, from subculture to subculture, and from time to time.

3. When an S^r is presented after an activity has been performed in a particular context (e.g., telling a joke in a group of men), the behavior is likely to be repeated in the same or similar context, or a specific aspect of it (a group of MEN). Those elements of the context in whose presence an action has been reinforced, usually called *discriminative stimuli* (S^D), eventually come to "control" the behavior; that is, the probability of their presence being followed by the associated activity increases. If another aspect of the context is *not* followed by the reinforcement of an activity (S^{Δ}), or is followed by aversive consequences, for example, telling the same joke in mixed company, the probability of the activity being repeated in the presence of that element, or in those circumstances (MIXED company), declines.

4. Behavioral elements are usually combined into *patterns*, for example, felling a tree. These patterns, in turn, are usually parts of more complex *chains*, for example, clearing a field in the forest. In most chains, an individual's actions and others' reactions to them come to be contingent and discriminative stimuli for further actions, thus "tying together" large numbers of behavior

[36] For detailed accounts of these and other principles, their experimentally established validity, and their applications to various human phenomena and problems, see Arthur W. Staats and Carolyn K. Staats, *Complex Human Behavior: A Systematic Extension of Learning Principles* (New York: Holt, Rinehart & Winston, 1963); and Arthur W. Staats (ed.), *Human Learning* (Holt, Rinehart & Winston, 1964). For a comparison of the behavioral and psychodynamic approaches, see Arthur J. Bachrach (ed.), *Experimental Foundations of Clinical Psychology* (New York: Basic Books, 1962). Although much early work was done with animals, recent studies of learning have concentrated on the analysis of principles underlying human behavior. The principles incorporated into the proposed model of man are all based on careful empirical work with human beings as described in the above books. Figure 1 and the present discussion of learning principles have been adapted from John H. Kunkel, "Individuals, Behavior, and Social Change," *Pacific Sociological Review*, IX (Spring, 1966), 48–56.

patterns of the same individual and of different people (e.g., mutual assistance in slash-and-burn agriculture).

SOCIOLOGICAL FACTORS

These psychological learning principles cannot by themselves account for the daily activities of individuals or the types of social relations which exist in societies, for men live within a social context which continuously influences them. From the behavioral point of view, such a social context consists, minimally, of values and norms whose operation is schematically indicated in Figure 1.[37] Other components, such as roles and institutions, need not be considered in the present paper since they consist mainly of complex behavior sets. Generally speaking, a society's *values* indicate ideal consequences of action and establish which persons and behavior patterns in the social environment of an individual theoretically will come to be discriminative and contingent stimuli; thus their roles are indicated by the *dotted lines* in Figure 1. Societal norms indicate actual consequences of action and establish which individuals and behavior patterns in the social environment of an individual are the actually operating

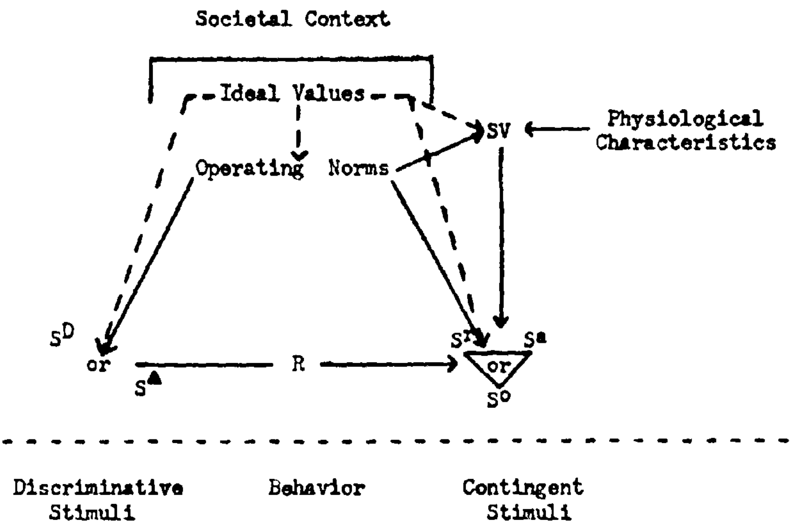


FIG. 1.—A behavioral model of man. Glossary of Terms R = any activity S^r = reinforcing stimulus (loosely speaking, rewards). S^a = aversive stimulus (loosely speaking, punishment). S^0 = absence of any consequences. S^D = stimulus in whose presence R has been reinforced S^{Δ} = stimulus in whose presence R has not been reinforced SV = state variables (i e., conditions of deprivation and satiation). Ideal Values = theoretical determinants of state variables, discriminative and contingent stimuli Operating Norms = actual determinants of state variables, discriminative and contingent stimuli

[37] The diagram has the individual and his activities as its frame of reference and assumes that the values and norms are given. If the frame of reference were a group or society, values and norms could not be conceived in this fashion. Instead, values and norms would refer to the systematic behavior of other people in the role of discriminative and contingent stimuli. A similar point is made by Judith Blake and Kingsley Davis in "Norms, Values, and Sanctions," in Faris (ed), *op. cit.* (n. 2).

Ambiguities and conflicts within the normative structure, between the value system and the norms of a society, or between those of the society and those of various subcultures, will result in poorly established S^D, SV, and contingencies. Learning will therefore be slow and difficult, behavior patterns will not be strongly established, and new activities will be shaped quite easily.

discriminative and contingent stimuli; hence their effects are shown by *solid lines* in Figure 1. More specifically, the norms and values of any society, subculture, or smaller group shape and maintain behavior by determining:

1. The *contingent stimuli*. The consequences of an action, usually rewards or punishment, are determined by the values and norms of a society or the group to which the individual belongs at the time. Thus, if a society's value system includes honesty, behavior patterns considered to be "honest" will be rewarded. If, however, norms prescribe that in certain situations (e.g., polite conversations) white lies are acceptable, honesty in these circumstances will be followed by aversive consequences (e.g., a stony silence) while dishonesty may be rewarded (e.g., by smiles).

2. The *state variables*. The efficacy of contingent stimuli is dependent upon the characteristics of deprivation and satiation. Values, and especially norms, play a direct part in the establishment of secondary or learned deprivations, as when a group's emphasis on popularity and togetherness makes solitude a form of punishment. Even primary deprivations, however, are influenced by the norms and values of a society. Foods may be culturally defined as inedible, so that milk, for example, does not become a reinforcer.

3. The *discriminative stimuli*. The values and norms of a group determine which behavior patterns will be reinforced and punished in a variety of specific contexts and circumstances, and thus they are responsible for the gradual definition of S^D. *Informality (as a set of actions), for example*, may be accepted and rewarded in certain circumstances, such as among peers, but in the presence of adults, and especially older people, restraint (as a set of actions) and deferential modes of address may be required and rewarded.

4. Since behavior patterns and chains consist of activities which have been learned, it may be expected that, *generally* speaking, the actions of individuals will coincide with the values and norms of a society, or with those of the group to which the individual belongs at the moment.

In everyday life, the behavior patterns of individuals are rewarded and punished, for the most part, by the actions of others, while *the S^D may be either people or their actions*. From the sociological point of view, a society's values and norms are the more or less permanent relationships between one person's actions and the behavior of others. The norm of respect between generations, for example, is a construct referring to the observed regularities of behavior patterns of the young vis-à-vis their elders (and vice versa). An older person (in most situations) is an S^D for a younger person's exhibition of certain behavior patterns—collectively designated as indicating "respect"—which are reinforced either by the older person's expression of gratitude (again a set of behavior patterns) or by the youngster's avoidance of aversive consequences such as scorn (i.e., certain actions of others). The connection between one person's action and another's reaction is indicated by the constructs "norm" and "value," useful for *sociological* analysis, while from the point of view of the *individual*, values and norms may be envisioned as somewhat more concrete phenomena with the functions indicated in the numbered paragraphs above.

Since new behavior patterns are learned throughout life and are maintained by the contingencies of ordinary daily existence, the social context of both the past and the present are integral parts of any analysis of human behavior—in fact, men's actions cannot be understood except in terms of the operation of the past and present social environment.

The determinants of behavior *in general* may be visualized in terms of the learning principles discussed in the previous section. *Specific* behavior patterns, however, and *specific* social relationships which characterize a society or subculture, can be explained *only in terms of the specific social*

contexts of the past and present which affect the operation of learning principles. Ecologists' interest in behavior, then, be it sustenance activities or other actions, leads to the analysis of the social context. Patterns of relationships, regularities of interaction, values and norms, are usually considered to be the major components of social organization. Two well-known sociologists, for example, define social structure as "a pattern, i.e., an observable uniformity, of action or operation,"[38] and as a "patterned system of social relationships of actors in their capacity of playing roles relative to one another."[39] Other men's conceptions, for instance, those of Blau, Firth, and Radcliffe-Brown, contain quite similar elements.[40] The behavioral model of man contributes to the analysis of social structure by indicating the nature of interaction, the operation of societal values and norms, and the conditions which underlie the uniformity and alteration of behavior. The utilization of learning principles, however, simplifies structural analysis by greatly reducing the investigator's concern with men's internal states and by focusing his attention on the actual operation of the social structure rather than on the individual's *perception* of, or his *orientation* to, the social system. The long and involved discussions of the actor's conceptions, expectations, needs, value orientations, etc., which fill much of Parsons' work,[41] for example, while still interesting, can be replaced by the succinct statement of learning principles which are considered to be the given elements in any social situation.

A simple example of a behavioral analysis of social structure is presented in Figure 2. Here the *horizontal lines* indicate the sequence of phenomena and/or events for the individual, that is, the relationships indicated by learning principles. The *vertical lines* indicate the relationships between one person's actions and those of another and may thus be taken to indicate norms. In this example, the sharing of food has at least two consequences: It results in other hunters eventually sharing their food, and it leads to a variety of actions collectively labeled "approbation" on the part of the villagers. These two reinforcers will lead to the repetition of the action (sharing). Any group's social structure may be envisioned in terms of such a lattice arrangement of activities, relations among men, consequences of behavior, etc., and Duncan and Schnore's call for the adequate conceptualization of "aggregate" and "organized population" can be at least partially fulfilled thereby. The behavioral approach to social organization thus makes it possible to dissect large-scale social phenomena into their constituent elements, laying the foundation for the type of social morphology advocated by Schnore.[42] Because of the complexity of the task, however, this will not be attempted in the present paper.

From these considerations it is apparent that man's internal state need not be considered as an important variable in the explanation of behavior. Action need not be explained, for example, in terms of internalized values, and there is no need to speak of well-ingrained norms. When norms and values are "internalized," what actually happens is that behavior patterns, state

[38] Marion J. Levy, Jr., *The Structure of Society* (Princeton, N.J.: Princeton University Press, 1952), p. 57. Similar views are expressed by Duncan and Schnore, *op. cit.* (n. 2); Gibbs and Martin, "Toward a Theoretical System of Human Ecology," *op. cit.* (n. 2), and Hawley, *op. cit.* (n. 3).

[39] Talcott Parsons, *Essays in Sociological Theory* (rev. ed.; Glencoe, Ill.: Free Press, 1954), p. 230.

[40] Peter M. Blau, *Exchange and Power in Social Life* (New York: Wiley & Sons, 1964), p. 283; Raymond Firth, *Essays in Social Organization and Values* (London: Athlone Press, 1964); A. R. Radcliffe-Brown, *Structure and Function in Primitive Society* (Glencoe, Ill.: Free Press, 1952).

[41] E.g., Talcott Parsons and Edward A. Shils (eds.), *Toward a General Theory of Action* (Cambridge, Mass.: Harvard University Press, 1951), II.

[42] Schnore, "Social Morphology and Human Ecology," *op. cit.* (n. 2).

variables, discriminative and contingent stimuli are learned.[43] According to the behavioral model of man, behavior change does not require the alteration of an internal state but rather the alteration of those aspects of the social context that affect the actions which are to be extinguished or established. When a person's learning history is known and when the operating S^D and contingencies are observed repeatedly (or are otherwise known), R can be predicted with a high degree of accuracy. Probably the best available support of the validity of this behavioral model of man, the underlying learning principles and the importance of the social context, is found in the results of therapy. Behavioral therapy (as opposed to psychotherapy), carried out by learning theorists of different persuasions, has been quite successful.[44] The "undesirable" behavior patterns of patients have been markedly changed by the alterations of contingencies and S^D originating in the social environment—without concern for the patient's internal state and with no "displacement" or relapses. The proposed behavioral model of man does *not* deny the existence of an internal state, of course. What it *does* indicate is that on the basis of experimental evidence and successful therapy it may be concluded that most of the behavior patterns of interest to sociologists can be explained without fundamental reliance on characteristics and theories concerning the internal state.

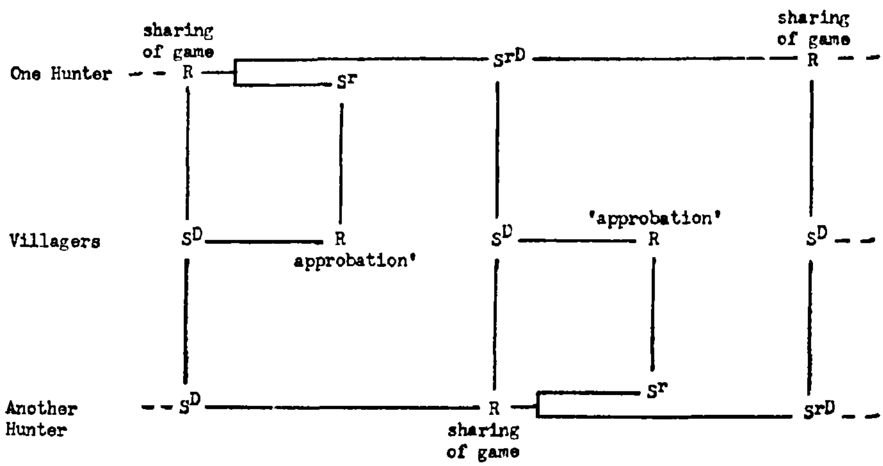


FIG. 2 —Relationships among activities

Psychological (learning) principles explain *how* behavior patterns are established in individuals and *how* they are maintained over time or extinguished. These principles cannot explain, however, the emergence and continuation of specific behavior patterns, or the relations among the activities of members of specific populations. Sociological concepts and procedures of analysis, such as values, norms, etc., are needed in order to explain *why* certain behavior patterns and not others have been established and are being maintained, and *why* certain relationships and not others are commonly observed among activities and members of a group. Even the sociological components

[43] For an extensive discussion of this viewpoint, see John H. Kunkel, "Values and Behavior in Economic Development," *Economic Development and Cultural Change*, XIII (April, 1965), 257–77.

[44] As illustrated, e.g., in Leonard Krasner and Leonard P. Ullman, *Research in Behavior Modification* (New York: Holt, Rinehart & Winston, 1965); and Leonard P. Ullman and Leonard Krasner, *Case Studies in Behavior Modification* (New York: Holt, Rinehart & Winston, 1965).

of a behavioral analysis of social phenomena, however, do not fully explain the actions of men, or account completely for the diversity—or in some cases the lack of diversity—of behavior found in various groups. Ecological factors are needed to provide additional information.

ECOLOGICAL FACTORS

The behavioral model's postulate that activities will be repeated if they are reinforced implies that any aspect of social organization must be analyzed in terms of the contingencies of the various activities which make up its structure. Although most contingencies are of a social nature—that is, they reduce secondary deprivations or they serve as conditioned reinforcers—some behavior patterns are followed by primary reinforcers such as food, shelter, physical comforts, etc. Ecologists speak of "sustenance activities," and while these are usually not specifically delineated, it is reasonable to label those actions as sustenance activities whose contingencies consist of primary reinforcers. The line between sustenance and non-sustenance activities is a hazy one, unfortunately; the behavior patterns associated with any man's occupation, for example, result in the monetary means which enable him to buy his food, etc. Steward's use of the term "cultural core" to indicate the activities most closely related to the satisfaction of basic physical needs and the immediate relationship to the environment is designed to similarly categorize behavior patterns, but no clear definitions of these categories are provided. In order to indicate the relationship between ecological factors and social organization, without being overwhelmed by the problem of categorizing activities, the following discussion will be based primarily on data from primitive tribes.

If sustenance activities are defined as those actions whose contingencies reduce primary deprivations, it follows that the reinforcers must come more or less directly from the physical environment. Specifically, the environment may be envisioned as determining the parameters within which behavior patterns will be reinforced, that is, within which sustenance activities will result in the solution of such problems as food and shelter. The desert environment of the Nevada Shoshone,[45] for example, presented narrow parameters within which only the collection of berries, roots, etc., along with the occasional hunting of small game, resulted in reinforcement (food). Agricultural activities would not be maintained long for lack of rewards.

Other environments, for example, those of central Europe, present much wider parameters, and a greater variety of sustenance activities becomes possible in that a large number of different activities would be reinforced. The parameters presented by the environment do not remain the same over time, of course. Erosion and droughts may narrow the parameters, while developments in technology may widen them. Contact with other tribes or the modern world may make possible the exportation of previously useless resources—that is, new behavior patterns with new contingencies may be established as new parameters become apparent through transportation and economic interdependence. Parameters, thus, may be wide or narrow, they may change over time, and since these changes may be the results of human activities, parameters may be considered, to some extent, as dependent variables.[46]

When parameters are quite narrow, as among the Shoshone, it may appear as if the

[45] Julian H. Steward, "The Great Basin Shoshonean Indians," in his *Theories of Culture Change*, *op. cit.* (n. 7).

[46] For a short discussion of the limiting aspect of the environment and the effects of man's action upon it, see Duncan, *op. cit.* (n. 2). For an illustration of the difficulties involved in the measuring of limitation and reciprocal influence, see Betty J. Meggers, "Environmental Limitation on the Development of Culture," *American Anthropologist*, LVI (October, 1954), 801-24; and Edwin N. Ferdon, Jr., "Agricultural Potential and the Development of Cultures," *Southwestern Journal of Anthropology*, XV (Spring, 1959), 1-19.

environment determines behavior patterns. Actually, however, behavior patterns are *learned,* and since such learning always occurs within a social—and physical—context which provides various contingencies, the physical environment affects the learning and maintenance of activities through the availability of reinforcers contingent upon various activities. The Shoshone *learned* to snare rabbits, collect berries, and to engage in occasional communal hunts; it was the reinforcement of such actions which maintained both these activities and the tribe.

The view that the environment is the source of primary reinforcers does not lead to a teleological position. An area's parameters are aspects of the physical environment which become apparent only through trial and error or through diffusion, as men learn that some activities are reinforced and others are not, or as they learn from their neighbors that in similar situations, somewhere else, certain behavior patterns were followed by primary reinforcers. The trial-and-error stage of development, unfortunately, is often part of forgotten history, thus obscuring the limiting role of the environment in the establishment of activities.

The parameters presented by the environment have been analyzed in a number of ways. Natural resources, transportation possibilities, topography, climate, agricultural potential, etc., have been considered to be important characteristics, all affected, to some extent, by the prevailing state of technology. On a much more abstract level, Cottrell and Duncan consider energy[47] to be the most important element of the environment. From the behavioral point of view it makes little difference how the parameters are defined or measured since various elements of the environment affect different behavior patterns. Generally speaking, the more specific the definitions of parameters, the more carefully their relationships to behavior can be analyzed. When parameters are defined in terms of energy, for example, the supply and initial form of energy together with the form and efficiency of energy converters are the important variables; because of their generality, however, it would be difficult to indicate their relationships to specific behavior patterns.[48]

The relationship between social organization and environment, no matter how it is conceived, must be analyzed in terms of the primary reinforcers of activities. A population's adjustment to the environment, for example, is usually considered to involve a collective solution to such major problems as food, shelter, etc. According to the behavioral approach, a population's "adjustment" refers to the establishment and maintenance of behavior patterns which have adequate primary reinforcers as their contingencies. Since the problems are usually complex and the nature of the environment such that many men must act in certain ways if even one is to be rewarded (e.g., collective labor or hunts), the term "collective solution" indicates that the activities of individuals must fall into certain patterns and sequences in order to be reinforced. A population adjusts to a changing environment, for example, by the members' learning of new behavior patterns which are reinforced in new areas, under new circumstances, or because they involve the use of a new tool. Old activities which were once reinforced are no longer rewarded, and are consequently extinguished. Behavior patterns with primary reinforcers, since they are related to other behavior chains, will affect (and be affected by) activities which, by themselves, are not immediately related to major problems of survival, and thus will affect the rest of the social structure.

Although ecological analysis usually begins with the study of sustenance activities such as agriculture, trade, or occupations, and proceeds from there to other aspects of

[47] Duncan, *op. cit.* (n. 2); Fred Cottrell, *Energy and Society* (New York: McGraw-Hill Book Co., 1955).

[48] This is especially evident in Cottrell's discussion of societies based on high energy converters.

social organization, the actual process of a population's adjustment need not follow the same sequence of steps. The utilization of new tools, for example, may be reinforced by larger harvests, but if sociological factors such as norms do not permit such activities the new mode of adjustment may not be permanent. Examples from underdeveloped countries in which new techniques and foods were not accepted indicate the importance of sociological factors in shaping the behavior patterns which constitute adjustment to the environment.[49] The relationship between social organization and the environment must, therefore, be considered in terms of both the ecological and sociological factors which affect the behavior patterns associated with primary reinforcers.

While it is correct to say that populations adjust to or alter the environment, and while it makes sense to speak of the "environmental limitation on culture,"[50] ecologists' emphasis on activity leads, at least in the initial stages of an analysis, to concern with individuals' behavior patterns, their determinants and interrelations. Only if constructs such as "population's adjustment" are viewed as complex sets of activities and their associated discriminative and contingent stimuli can the ecologist's concern with behavior be rigorously maintained throughout the analysis of social phenomena.

The efficacy of the behavioral model in the ecological analysis of social organization will now be illustrated. Again, to simplify the example, a primitive tribe will be used as the source of data.

AN EXAMPLE: THE MUNDURUCU

The Mundurucu[51] of the central Amazon consist of two groups, Savannah and River villages. Originally, all people lived on the Savannah, but an increasing number are moving to the river. Since the river provides a new habitat requiring new adaptations, the Mundurucu provide excellent material for illustrating behavioral aspects of the ecological approach to social phenomena. In the present paper only a brief sketch can be provided.

Savannah villages.—The characteristics of the environment—some jungle and relatively scarce game—together with the nature of the technology—extremely simple, including bow and arrow—result in the reinforcement of communal hunts, some group fishing, and co-operation in the initial preparations of gardens. Individual attempts to hunt and fish lead to little success, and even group hunting takes up to twelve hours a day, leaving the men little time for other activities. From the behavioral point of view, the "strong cohesive bonds" which characterize the village reflect the fact that reinforcers for the individual are greatest when men divide the labor of chasing and killing game, drugging and shooting fish, or cutting and burning trees.

The village is the most important social unit, the frame within which all of the most important aspects of daily life occur. The most conspicuous aspect of social organization is the solidarity of the village. This solidarity consists of a number of elements, only three of which will be discussed in order to illustrate the ramifications of sustenance activities. The first aspect of solidarity is the sharing of game. Game is recognized to belong to him who killed it, even in group hunts. All game, however, is shared, as illustrated in Figure 2. More specifically, the successful hunter gives the meat to his wife who prepares the meal and distributes the rest among the other wives of the village. This action serves as an S^D

[49] E.g., Edward H. Spicer (ed.), *Human Problems in Technological Change* (New York: Russell Sage Foundation, 1952); and George M. Foster, *Traditional Cultures; and the Impact of Technological Change* (New York: Harper & Bros., 1962).

[50] Meggers, *op. cit.* (n. 46).

[51] Robert F. Murphy, *Headhunter's Heritage; Social and Economic Change among the Mundurucu Indians* (Berkeley: University of California Press, 1960).

for others' sharing of their game when they have some. The sharing is affected by at least two factors. First, the animal is often so large that one family cannot eat all of it, meat spoils quickly, and only a few men are successful on any one day. Sharing, thus, is reinforced because of such ecological factors as climate and the scarcity and size of game. Second, the society's norms reinforce the sharing of food. In this case reinforcement consists not so much of overt acts as of the avoidance of negative sanctions associated with not sharing. It is this normative requirement which accounts for the sharing of *all* game, even when the animal is small or several hunters are successful.

The second element, the widespread co-operation in the preparation of gardens, is illustrated in Figure 3. A complex set of activities by one man, here labeled "helping others," is an S^D for at least two types of action on the part of other villagers. It is an S^D for other men's help in his garden, and such help on their part is a reinforcer for his co-operation with them. In addition, his help is an S^D for his fellow villagers' actions, which may be collectively termed "friendliness." The line connecting R_3 with S^r indicates the reinforcer of others' help and reflects an essentially ecological relationship—for example, the implications of large trees and heavy underbrush. The line from R_2 to S^r reflects the norm that co-operation "is looked upon as good and valued behavior in itself. . . . To refuse (would arouse others') antagonism and suspicion."[62]

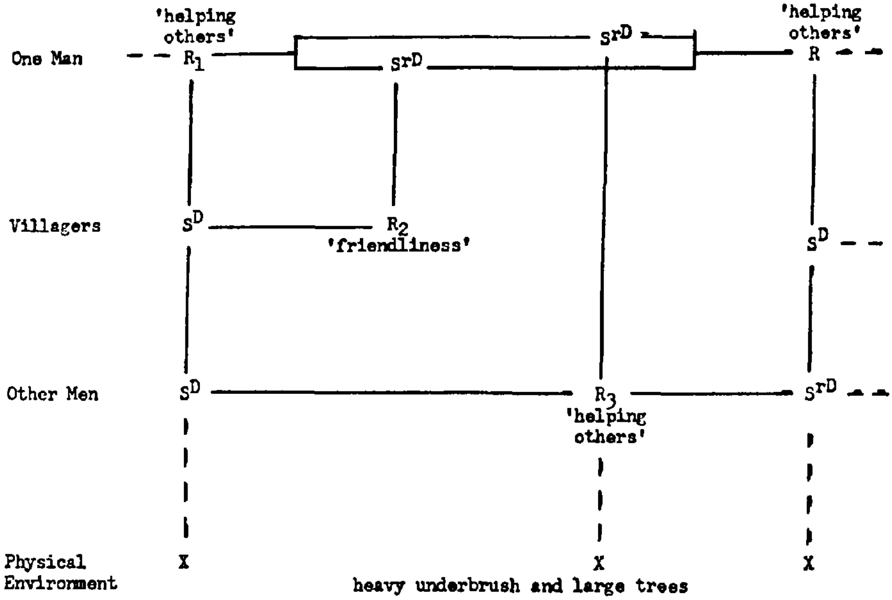


FIG. 3—Ecological aspects of social structure

A third element is the absence of overt hostility. Hostile actions would make the co-operation required in the sustenance activities impossible, or at least would greatly reduce their effectiveness, and thus are associated with aversive consequences.

Further aspects of social organization, such as matrilocality, are mentioned here only for purposes of comparison with the river villages. The man moves into the village of his wife, while the woman remains in her village. A strict division of labor and

[62] *Ibid.*, p. 106.

extreme male dominance establish two distinct ways of life and centers of activity. Wives cultivate gardens, prepare food, and spend most of their time in association with other women; men, when they are not procuring food, spend their time with other men in or around the men's house. The nuclear family is quite unimportant.

River villages.—Because of traders and missionaries, a few families moved to the river part-time, where latex could be collected and traded. Later, an increasing number of families moved to the river permanently, and today two-thirds of all Mundurucu live down there. The river villages are becoming smaller and more numerous as an increasing number of families move into the jungle to tend their rubber trees.

Ecological characteristics—the wide dispersal of solitary rubber trees and the river as a source of food and means of transportation—have resulted in the reinforcement of new sustenance activities. Fishing, the major source of food, takes no more than two hours a day and, when done from a canoe, requires two people, of whom one may be physically weak. While gardens of the savannah yield harvests for two years, those on the river last several seasons. Men spend the time thus gained collecting rubber which they trade for manufactured goods and food.

The collection of rubber is done most efficiently (i e., produces the greatest reinforcer) when one man works alone or with his son. He hacks out a rubber avenue, from one tree to another, and collects the latex while his wife works in the garden. Father and son often go fishing together, and the man occasionally helps his wife. Thus, manufactured articles serve as reinforcers not only for the collection of rubber but also for the co-operation of the members of the nuclear family. Group ventures such as hunting, fishing, and garden preparation have been discontinued on their formerly grand scale, mainly because these actions are incompatible with rubber collecting and are no longer sufficiently rewarded.[53] Co-operative efforts of no more than two or three people are reinforced, and the nuclear family has become the most important social unit. Even when several families build their houses close together men continue to work their individual rubber avenues, and there is little if any co-operative work or sharing of food. Gardens can be easily prepared, fishing does not require co-operation, and there is not enough food to spoil. The behavior patterns which characterized the men's house—male dominance, village solidarity, and the clear-cut division of labor —are incompatible with the new individualistic sustenance activities and thus have not been established on the river.

Interpersonal hostility is quite common among the river people, and there is little visiting and general socializing among families. According to the behavioral approach, hostility (as a set of behavior patterns) has few if any aversive consequences since there is little co-operation, and the cost of socializing is high because of distance and the work schedules of both rubber collectors and gardening women. All of these phenomena underlie Murphy's statement that the river Mundurucu are characterized by few cohesive and many divisive elements.[54]

This sketch can only be indicative of the behavioral approach in the ecological analysis of social phenomena. Only a few of the behavioral ramifications of the two types of sustenance activities have been shown, and the analysis of the two types of social organization has been superficial and far from complete. Enough of the behavioral approach has been outlined, however, to indicate its utility in relating the characteristics of the environment to the form and operation of social organization.

CONCLUSION

It has been proposed above that if the ecological approach to social phenomena

[53] For a carefully documented discussion of the factors which are probably responsible for the decline of reciprocal labor, see Charles J Erasmus, *op. cit.* (n 34), pp. 148 ff

[54] Murphy, *op. cit.* (n. 50), p. 166.

centers on activity and if it is recognized that only individuals act, it is necessary to analyze the determinants of the behavior of individuals and to study the nature of the interrelations of activities. Learning principles and procedures have been employed to formulate a behavioral model of man, and this has been used to explain the establishment and maintenance of individuals' activities *in general*. Sociological factors, especially the values and norms of a society or subculture, have been used to account for the presence and continuation of *particular* behavior patterns and *specific* relations among men. Ecological factors, finally, have been postulated to determine the parameters within which behavior patterns will be reinforced by the characteristics of the environment, that is, within which behavioral variation—and thus normative variation—is possible.[55]

Present knowledge of learning principles leads to the conclusion that the procedures involved in learning are the same for all men, for there is no evidence that the basic procedures involved in learning in the United States are different from those operating in Europe or Asia, for example, at present or in the past. Value systems and norms do vary, of course, from one group to the next and also over time. Ecological factors, finally, are also subject to change, and thus the parameters presented by the environment change.

Since social organization consists, essentially, of the ordered activities of a population, it follows that the form and operation of social organization must be explained in terms of at least these three sets of factors. In order to explain differences in social organization among various societies and subcultures, or to account for variations over time, all three sets of factors must enter into the analysis. However, since learning principles are invariant, any differences in social organization and any changes over time must be accounted for primarily in terms of sociological and ecological factors.

The behavioral model of man and its underlying learning principles are the constants of any analysis, and thus they need not detain the investigator of *social* phenomena beyond the recognition of the role they play in the determination and interrelation of activities. It follows that any characteristic of social organization must be accounted for largely in terms of sociological and ecological factors. The behavioral approach, therefore, even with its initial emphasis on individuals, leads logically to Durkheim's position that social phenomena must be explained socially. It differs from Durkheim mainly in terms of the principles which constitute the model of man and in the explicit recognition of ecological factors in the analysis of social phenomena.

The model of man discussed in this paper does not lead to psychological reductions or "psychological sociology," because specific behavior patterns cannot be explained solely—or even largely—in terms of psychological (learning) principles. Even such a simple action as eating requires a largely sociological explanation; *how* men eat, *what* they eat, and *when* they eat cannot be determined on the basis of learning principles alone. As was pointed out above, sociological factors, while they contribute to a causal analysis of social phenomena, cannot completely or adequately account for the behavior of individuals or the properties of groups. Only when ecological factors are considered, in addition, can behavior and social phenomena be adequately explained, as was illustrated by the case of the Mundurucu. Conversely, sociological and ecological factors, by themselves, produce only a partial explanation in that the general determinants of action and the behavior chains of individuals cannot be completely explained by them.

The themes of this paper are not necessarily relevant for the work of all sociologists. Those who are engaged in the analy-

[55] The implication of this view, that norms are initially a consequence of behavior and its reinforcement, cannot be adequately treated in this paper. For a similar view, see Blake and Davis, *op. cit.* (n. 32).

sis of large-scale social phenomena, for example, may be concerned more with correlations among broad categories of actions or their consequences than with the relationships among specific behavior patterns. Such investigations probably would not require explicit statements concerning a model of man, and thus questions revolving around psychodynamic and learning principles might be irrelevant. However, those sociologists who wrestle with the problem of the role of the individual, his actions and his internal state, in the investigation of social organization cannot help but confront the subject of models of man.[56]

[56] Two examples of the dozens which could be given are: Reinhard Bendix, "Compliant and Individual Personality," *American Journal of Sociology*, LXIII (November, 1952), 292–303; and Alex Inkeles, "Personality and Social Structure," in Robert K. Merton, Leonard Broom, and Leonard S. Cottrell (eds.), *Sociology Today* (New York: Basic Books, 1959), 249–76.

The recognition of individuals, at least in the initial stages of an analysis, cannot lead to an individualistic or psychological emphasis in the study of social phenomena as long as a behavioral model of man based on learning principles is used. The arguments presented in this paper lead to the conclusion that the individual as a unique person may be safely disregarded in the ecological analysis of social phenomena, but that learning principles cannot be eliminated from the study of social organization. Thus Hawley's statement that the individual enters ecology as a postulate is clarified by the above discussion: Hawley's postulate may be profitably envisioned as a set of assumptions concerning the principles and procedures for the establishment, maintenance, alteration, and extinction of behavior patterns of individuals, that is, as a behavioral model of man.

Arizona State University

Ecological Position, Urban Central Place Function, and Community Population Growth

Harold Mark and Kent P. Schwirian

ABSTRACT

The purpose of this paper is to explore the relationship between urban central place function and community population growth in a rural region with a rapidly improving transportation system. The data show that, while certain ecological classes of towns have advantageous positions for population growth and trade expansion, no longer is central-place function expansion per se a principal community-building activity. Population growth resulted from other expansions of the local economic base The growth-producing factors, however, differ between different ecological classes of cities.

Among the most frequently cited explanations of city location is the central-place model proposed by Christaller[1] and by Lösch[2] and as later restated by Ullman.[3] Three basic ideas are contained in the model: (1) cities are involved in symbiotic economic relationships with the immediately surrounding agricultural population and are centrally located in their trade area, (2) within a region manifesting a central-place locational pattern a hierarchy of central places emerges as a result of ecological position and functional differentiation, and (3) the distance between cities of the same size exhibits regularities which are a function of the mode of transportation at the time of location.

In recent years an impressive amount of literature has developed illustrating the wide applicability of the central-place model.[4] The bulk of the research has been of three types: (1) studies demonstrating the generality of the model in differing world regions, (2) studies focusing on the nature of the hierarchical relations between trade centers, and (3) the development of mathematical models describing cross-sectional relationships among central-place variables. Largely ignored, however, has been the important nexus between central-place function and community-population growth as regions mature and transportation systems modernize. While we know that central-place function is a principal city-building activity in the agrarian stage of regional development, we have little information on how trade expansion is related to local population growth as the technology of transportation changes and the original space-time relationship between communities becomes altered. Does central-place function continue to be an important growth-producing activity, or is it eclipsed by other expansions of the local economic base? Are there certain classes of communities for which central-place function is related to population growth and other classes in which the variables are not

[1] Walter Christaller, *Die Zentralen orte in Suddeutschland* (Jena: Gustav Fischer Verlag, 1933).

[2] A. Lösch, "Die raumliche Ordnung der Wirtschaft" (trans. W. H. Woglom and W. F. Stopler, *The Economics of Location* [New Haven, Conn.: Yale University Press, 1954]). For a briefer presentation, see A. Lösch, "The Nature of Economic Regions," *Southern Economic Journal*, V (1958), 71–78.

[3] E. L. Ullman, "A Theory of Location for Cities," *American Journal of Sociology*, XL (May, 1941), 858–64.

[4] For a very extensive bibliography, see Brian Berry and Allen Pred, *Central Place Studies*, bound together with a supplement through 1964 by H. G. Barnum, R. Kasperson, and S. Kiuchi (Philadelphia: Regional Science Research Institute, 1965).

related? The purpose of this paper is to explore the general relationship between urban central-place function and community-population growth in a region rapidly improving in transportation. First, we present a model based upon general central-place theory which specifies the nature of the relationship between central-place function and local population growth at different stages of regional industrialization and transportation technology. Second, we test a basic hypothesis drawn from the discussion with data from a region reflecting a central-place locational pattern which is undergoing rapid transportation improvement.

CENTRAL PLACE THEORY AND COMMUNITY POPULATION GROWTH

On the basis of the central-place model we assert that in any given time period the general relationship between urban central-place function and community-population growth is a function of *both* the level of regional industrialization and of the particular ecological niche or position of the community in the total pattern of intercommunity relations. Furthermore, we suggest that as a region moves through the various stages of industrialization there is a *decline* in the importance of central-place function as a community-building activity. However, the key factor in determining the ability of a community to attract the necessary activities to maintain and expand its population is its *ecological niche*, which is assigned initially for most communities in the original period of regional settlement. Some ecological positions are favorable for future economic and population expansion, while others are not.

We suggest that there are three general levels of regional development relevant for viewing the relationship between population growth and urban central-place function: (*1*) agricultural settlement, (*2*) industrialization, and (*3*) metropolitanization.

1. *Agricultural Settlement*.—The period of agricultural settlement is the initial time of city location in which the region is almost totally agricultural. In this period urban centers emerge to provide points of exchange of goods and services for the agricultural population. A hierarchy of large centers develops as a result of functional differentiation and specialization in retailing and wholesaling. This is a period of population growth and trade expansion for all of the urban centers, and central-place function is the major city-building activity. Also of importance in this period is that each urban center as it emerges is assigned a definite ecological position which places the bounds upon its future growth potential.

2. *Industrialization*.—In the period of industrialization the total region experiences a diversification of its economic base, a rapidly improving transportation system, a more efficient communication system, and a steadily increasing population. Economic and population growth are not uniform throughout the region. Rather, certain ecological classes of cities experience the expansions, while others do not. It is the large cities or metropolitan centers that emerged at the top of the original central-place hierarchy that become the focal points of regional change. It is in these centers that expansion of existing industry takes place as well as investment in new manufacturing ventures. These large cities are attractive to the new activities since the ecological position of each is at a main node in existing and improving transportation and communication systems.

The economic expansion and diversification of the large centers through attracting new workers and their dependents to the community stimulates expansion of local retailing. Thus not only do these centers have a growing population but an expanding retail trade as well. The expansion of retailing in the large cities, coupled with the improvement of transportation arteries radiating through the surrounding hinterland to other distant large cities, exerts a more far-reaching pull on hinter-

land shoppers than in the initial period of agricultural settlement.[5] Thus the central-place activities of the large cities are both more attractive and more accessible to hinterland residents. This results in an expansion of the central-place function of the large city at the expense of its nearby smaller neighbors.

The demographic and economic growth of the large cities in this period is not contained within the original spatial boundaries of the cities. Rather, both population and economic activities diffuse from the large cities to the adjacent rural areas channeled by the new and improved highways. This urban explosion becomes manifest in the conversion of former agricultural land into more urban patterns. Agricultural villages are converted to dormitory satellites, and all-new residential or industrial suburbs appear where no settlement existed before.

The urban centers caught within the web of metropolitan decentralization have an advantageous ecological position for both population growth and central-place function expansion. Most of the small centers grow by attracting central-city commuters and their families. A few of these rural-marketing centers attract some of the decentralizing employing activities, and their transition is from service to employment drawing to themselves each day workers from other segments of the metropolitan area. Many of the suburban communities take on an increased central-place function as new suburban shopping centers emerge. These new retailing complexes place the suburb in a favorable position to compete for retail trade with the larger metropolitan center and with the agricultural service centers at the periphery of the metropolitan area. Suburbs with large shopping centers are able to draw off much of the rural trade attracted to the metropolitan centers and inward bound on the new, improved highways. The favorable ecological position of the suburbs is reflected in population growth, employment increase, and expansion of central-place function.

The ecological niche of communities at the periphery of the metropolitan area is favorable for population growth, but unfavorable for central-place activities. Since they are within a reasonable driving distance of the metropolitan centers, they can attract a commuter population. Their central-place activities are at a disadvantage as a result of metropolitan proximity. They are too far from the metropolitan centers to attract the decentralizing retail activities located in the suburban shopping centers. Thus, these metropolitan neighbors must compete for trade with both the central city and the suburbs. Inevitably, they must lose trade in the short run and experience an erosion of their former trade area. In future metropolitan expansion they may be drawn into the metropolitan complex and experience a rejuvenation of central-place activities.

The communities with a disadvantageous ecological position for both population growth and economic expansion are the hinterland centers. A threefold dilemma faces these towns. First, their isolation from the dynamic metropolitan centers makes it unlikely that they will attract much of the decentralizing population or trade. Thus they derive no benefit from the rise of the region's metropolises. Second, they are faced with a dwindling market as mechanization of farming and the attraction of the new industrial centers stimulates rural out-migration. Third, the changing space-time ratio brought about by transportation modernization throws the hinterland centers into competition for the shrinking rural trade with neighboring towns formerly at a comfortable distance.

[5] In a much earlier study of 100 large cities, Isard and Whitney found that per capita retail sales were higher in central cities than in surrounding towns within 20 miles of the large centers. Cities beyond the 20-mile radius had higher per capita sales than those within the 20-mile radius. Walter Isard and Vincent Whitney, "Metropolitan Site Selection," *Social Forces*, XXVII (March, 1949), pp. 263–69.

As an ecological class the hinterland towns are characterized by little population growth, a stagnant central-place function, and little economic expansion. If any hinterland towns have a relative advantage in this period it is those whose competition is limited to smaller neighbors.

While the rapidly growing central cities and suburbs experience expansion of their central-place function at the expense of the hinterland centers, the expanding central-place activity contributes little to local population growth. The increased demand for employment in retailing can to a large extent be met by females already community residents. Thus, the major result of central-place function expansion is upon the labor force participation rates of local females.[6] The migrants attracted by the opportunities in retail-trade employment tend to be single females, thereby contributing only their number to the local population.

The relationship among population growth, urban central-place function, and community ecological position in this period of regional industrialization may be summarized in the following hypothesis: *That during regional industrialization while there is rapid population growth and expansion of central-place function for certain ecological classes of cities, central-place function is no longer a significant community-building activity.*

In this study we examine this proposition with data from one industrializing region with a central-place location pattern. However, before we proceed with the data, we describe the third period of regional change.

3. *Metropolitanization.*—In this period the region sustains population growth, retail-trade expansion, expansion of the economic base, and complication of the transportation and communication systems. No longer is agriculture the region's dominant economic activity but the economy becomes more balanced with almost equal roles for agriculture and urban-industrial enterprises. There is a bifurcation of agricultural activities. Productive land near the metropolitan centers is changed from the more basic crops to a concentration in truck-garden activities. Formerly marginal land is brought into cultivation for the high-demand products in the nearby metropolitan groceries. The section of the region more isolated from the urban centers continues production of the more basic crops, but there is a changing organization of farming activities. There is a decrease in the family farm pattern and an increase in the more rational, bureaucratic, corporate form of structure. This changing organizational pattern in farming further accelerates the dwindling of the rural population. The net result for the hinterland towns is a further loss of their market and a further stagnation of their central-place function.

Some hinterland towns do prosper in this period. Through continued decentralization of economic activities and population from metropolitan centers, an increasingly larger segment of the region adjacent to the metropolitan centers becomes urban in character. The service centers in such areas experience the suburban renaissance that those farther in did in the period of industrialization. Not all of the metropolitan decentralization is contained within areas contiguous to the large centers. With increasing frequency the larger more accessible hinterland centers become the sites for industrial development. As some of these hinterland centers grow, their smaller neighbors who became their retail vassals in the period of industrialization begin to take on a dormitory function and, perhaps, some additional trading activities. The only

[6] In a study of the functional specialization of American cities and related demographic characteristics, Reiss reports that those communities specialized in retail trade have higher labor force participation rates for females than do those specialized in "maintenance trade" or "wholesale trade" or the non-trade centers. Albert J. Reiss, Jr., "Functional Specialization of Cities," in Paul Hatt and Albert J. Reiss (eds.), *Cities and Society* (Glencoe, Ill.: Free Press, 1957), p. 563.

class of town not to grow substantially in this period consists of the isolated hinterland centers unable to attract new industry and too far distant from expanding hinterland centers to become residential satellites.

Through industrial concentration, complication of transportation networks, growth of residential centers, and changing agricultural activities there is a gradual obliteration of the original central-place locational pattern near the metropolitan centers, even though a system of hierarchical relations in trade and finance remains. Only in the isolated segments of the region does the familiar hexagonal patterning of towns hold.

Existing empirical data on the development of central place regions support the type of structure we describe as the period of *agricultural settlement*. In this paper we explore the plausibility of the hypothesized relationships among ecological position, population growth, and central-place function for an agricultural region now undergoing the type of change we have called *industrialization*. We leave the empirical investigation of the period of *metropolitanization* until a later time when more central-place type regions than there are today begin to reflect such an organizational pattern.

RESEARCH DESIGN

The communities selected for investigation are the urban incorporated places of Iowa. There are ninety-eight communities that were urban places in both 1950 and 1960. Complete data were obtained for ninety-two of the towns. There are three advantages in using Iowa as the central-place region for investigation: (1) Iowa has a near-classic pattern of central places, (2) in recent years highway construction and improvement have proceeded at a rapid rate, and (3) through using Iowa a contribution may be made to the extensive and varied body of literature dealing with one of the clearest instances of central-place patterning.

The basic concepts of this study are: community ecological position, rate of population growth, and urban central-place function. By community ecological position we mean a town's general niche in the total pattern of intercommunity relations. Five ecological positions are discerned here and are operationalized in terms of community size and distance from other communities. The first is *central city* and is composed of the metropolitan centers defined by the United States Census as central cities of Standard Metropolitan Statistical Areas (SMSA). The *suburbs* make up the second ecological class of cities. They are the incorporated urban places outside of the central cities, but within SMSA's.[7]

[7] Normally the suburbs should be divided into residential and employing subcategories since each fulfills different functions in the metropolitan scheme However, the Iowa suburbs are largely residential in nature, and separate analysis was not possible. Future studies should not only separate residential from employing suburbs but should also divide the employing satellites into those specializing in manufacturing and those specializing in retail trade. This latter category is discussed more fully in the following section of this paper. For a discussion of residential and employing suburbs, see Leo F. Schnore, *The Urban Scene* (New York: Free Press, 1965), Part III, pp. 135–200. Also it should be noted that our concept of metropolitan community used the census definition of SMSA which has as its basic unit the county. In a recent paper Fox and Kumar suggest that in Iowa the economic dependencies are spread across county lines and that the concept of Functional Economic Areas (FEA) may be more useful analytically. The FEA consists of a core county (in the case of current SMSA's the SMSA county would be the core county of the FEA) and surrounding counties and portions of surrounding counties within a specific radius determined by driving time. If the FEA scheme were used in this paper the metropolitan neighbors would be included within the FEA's containing the central cities of the SMSA's. Our data suggest that the metropolitan neighbors are quite interdependent with the SMSA communities and should be considered as a functional portion of the metropolitan area. Thus for certain studies the FEA concept seems quite appropriate for metro-

The third ecological class of cities consists of those independent communities at the periphery of the metropolitan area. They are close enough to be decidedly influenced by the metropolitan centers, but far enough away to maintain their economic independence. These *metropolitan neighbors* are incorporated urban places not within SMSA's but within thirty miles of a central city.

The fourth ecological position consists of cities called here independent *competitive trade centers*. They are hinterland towns at a sufficiently long distance from central cities so that they are not caught up in their expanding hinterlands. Yet, they are within close enough driving distance to a city of similar or larger size that they are in actual competition for retail trade. These centers are neither within nor near metropolitan centers but are within thirty miles of a similarly sized or larger center. The mileage figure of thirty used in the operationalizations roughly represents one-half hour driving time on improved high-speed roads. The fifth type of community identified by its ecological position is the *non-competitive trade center*. Such cities are near neither expanding metropolitan centers nor similarly sized trade centers with which they must compete. Non-competitive trade centers may expand their hinterlands unimpeded by those of other large centers to the extent that the mode of transportation permits. These centers are not within SMSA's and are more than thirty miles from a city of the same or larger size.[8]

The variable community-population change is measured in terms of the percentage change in the local population between 1950 and 1960 in the 1950 community area.[9]

The third principal variable is urban central-place function. This refers to the extent of a community's retail-trade function. Past research on central-place function has utilized a variety of indicators. Population size itself has been used to measure this variable.[10] The reasoning here is that there is strong association between size of city and size of tributary area. Accordingly, small service centers offer only a few services to the nearby hinterland residents, while larger cities offer a full range of specialized services to a large subregion. One of the basic problems in using population size as an indicator of central-place

politan research. See Karl Fox and T. Krishna Kumar, "The Functional Economic Area: Delineation and Implications for Economic Analysis and Policy," in Morgan Thomas (ed.), *The Regional Science Association Papers* (Tokyo: International Academic Printing Co., 1965), XV, 57–85.

[8] In this study we distinguish between trade centers only in terms of their proximity to other centers and do not distinguish among them by functional type. In a recent study of the upper midwest (excluding Iowa) John Borchert and Russell Adams classified the trade centers into six functional types. They are: hamlets, minimum convenience centers, full convenience centers, partial shopping centers, complete shopping centers, and wholesale-retail centers. Their scheme is based upon functional specialization rather than ecological position. Further research should investigate the degree of functional specialization among the various ecological positions. See John Borchert and Russell Adams, *Trade Centers and Trade Areas of the Upper Midwest* (Urban Report no. 3 [September, 1963], Upper Midwest Economic Study, Minneapolis, James Henderson, director).

[9] Fifty-eight urban places in Iowa annexed area and population between 1950 and 1960. By using the 1950 area a less-biased view of population growth is obtained. See U.S. Bureau of the Census, U.S. Census of Population: 1960, *Characteristics of the Population, Part 17, Iowa* (Washington: U.S. Government Printing Office, 1963), I, Table 9, 28.

[10] As Ullman has stated: "As a working hypothesis one assumes that normally the larger the city, the larger its tributary area. Thus there should be cities of varying size ranging from a small hamlet performing a few simple functions, such as providing a limited shopping and market center for a small contiguous area, up to a large city with a large tributary area composed of the service areas of many smaller towns and providing more complex services, such as wholesaling, large-scale banking, specialized retailing and the like." From Ullman, *op. cit.* (n. 3). Also Borchert and Adams *op. cit.* (n. 8) have shown that the larger trade centers have more functions than the smaller.

function is that some large cities may specialize economically in non-trade activities and have only a very limited trade area.

Another measure of central-place function has been indexes of communication between cities and the surrounding hinterland areas. Among specific indicators used have been telephone calls, traffic flows, newspaper circulation, and mass-transit schedules.[11] These indicators have had only limited application in central-place research as a result of difficulties in securing data.

Another measure of central-place function has been the number of retail sales and service units located in a city. Brush has suggested that a *hamlet* would have between one and nine units, a *village* between ten and fifty units, and a *town* would have over fifty units.[12] The implicit assumption of this measure is that each unit adds to the attraction of the center to the hinterland. Seldom is any distinction made as to whether the units duplicate each other in what is offered the consumer, or whether there is no duplication but a greater range of services.

Employment in wholesaling and retailing activities have been used to measure extent of trade function. Siddall has suggested that wholesaling trade works complementary to retail trade, and he assumed that it takes a constant number of wholesale-trade workers to service a certain number of retail workers. The greater the ratio in a community over the number of wholesale workers needed for the local retailers the greater the wholesale function consumed in other communities.[13]

One of the most frequently used measures of central-place function and the one used in this study is per capita retail sales.[14] The basic notion in the measure is that hinterland residents contribute to the dollar volume of trade of a center without contributing to the base on which the index is computed. This measure does not represent a perfect operationalization of extent of trade function; it does, for example, tend to exaggerate the hinterland function in the case of transients and others who neither live in the community nor in the hinterland but who spend their money there. The measure does have the advantage of "cutting both ways" in the sense that it measures not only the propensity of hinterland residents to trade in the community but it is also sensitive to the purchasing activities of the community's own residents. The utility of the operationalization may be illustrated in the following way. Given that per capita retail sales is a function of total retail sales/total population it may be noted that the hinterland farmer who trades in the service center contributes to the numerator of the fraction but does not contribute to the denominator, whereas the suburban resident who shops in the larger neighboring community contributes to the denominator but not to the numerator. A low per capita figure would indicate not only failure to attract hinterland shoppers but also indicate inability to hold the trade of the center's own population.

Data for the per capita trade index is provided in the U.S. census reports. However, if straight sales figures are used they cannot be obtained for the same year as the population figure. Thus, trade figures are for 1958, while the population data are for 1960. To obtain population and sales figures for the *same* year, Iowa state sales tax reports are used.[15] For each Iowa town the number of dollars state sales tax collected is reported. This represents 2 per cent of

[11] See William R. Siddal, "Wholesale-Retail Ratios as Indices of Urban Centrality," *Economic Geography*, XXXVII (1961), 124–32.

[12] John E. Brush, "The Hierarchy of Central Places in Southwestern Wisconsin," *Geographical Review*, XLIII (1953), 380–402.

[13] Siddal, *op. cit.* (n. 11).

[14] For a discussion of the use of per capita sales as a measure of central-place function, see *ibid.* Also see Isard and Whitney, *op. cit.* (n. 5).

[15] Iowa State Tax Commission, *Annual Report* (Des Moines, 1950) and *Annual Report* (Des Moines, 1960).

local retail sales. By using state tax collections rather than total dollar retail sales, the above equation is modified only by multiplying the numerator by a constant which is the per cent state sales tax. Thus, the central place function index used here is:

$$\text{central place function} = \frac{\text{total retail sales} \times \text{per cent state sales tax}}{\text{total community population}} \times 10 .$$

The multiplier of 10 is used to remove the decimal point from the ratio. The sales tax figures for 1950 and 1960 are for those fiscal years as reported in the state documents. Change in central-place function is measured here as the percentage increase in the index between 1950 and 1960.

FINDINGS

The general hypothesis examined here is that during regional industrialization while there is rapid population growth and expansion of central-place function for certain ecological classes of cities, central-place function is no longer a significant community-building activity. Before observing the relationship between central-place function and population growth we view the relationship of each to community ecological position.

In Tables 1 and 2 it may be noted that community ecological position is related significantly[18] to rate of population growth, size of central-place function and rate of expansion of central-place function. The communities with the most rapidly growing populations are the central cities, their suburbs, and the metropolitan neighbors. Very little growth was recorded by the hinterland towns. The analysis of variance for Table 1 data yielded an F ratio statistically significant beyond the .01 level. Also, 44 per cent of the total sum of squares of population growth is accounted for by the five ecological categories.

TABLE 1

COMMUNITY ECOLOGICAL POSITION AND RATE OF POPULATION CHANGE, 1950–60*

Community Ecological Position	Population Mean (%)	Change 1950–60 S.D.	No. of Places
Central cities	10.0	6.0	6
Suburbs	40.4	21.9	5
Metropolitan neighbors	12.4	10.0	19
Non-competitive trade centers	3.8	7.9	14
Competitive trade centers	0.5	7.4	48
Total urban places	6.2	11.6	92

* $F = 6.18$, $P < .01$.

In Table 2 it may be noted that, while the hinterland towns had proportionately larger central-place functions in both 1950 and 1960 than did the communities in and near the metropolitan areas, between 1950 and 1960 the highest rates of increase in central-place function were recorded by the suburbs and the central cities. All of the categories of hinterland towns were below on the average the general state-wide increase of approximately 36 per cent. This percentage may be considered as that increase in retail sales expected mainly from economic inflation and changing spending

[18] The cases under study here are not a sample but the population of Iowa urban places. Tests of significance are used here to aid in the evaluation of the hypotheses even though usual sampling assumptions do not hold.

patterns in the period. Thus it seems that the central cities and suburbs were expanding their central-place functions at the expense of the hinterland towns. The analyses of variance performed on the distributions in Table 2 were all statistically significant. The categories of ecological position account for 17 per cent of the total sum of squares of the 1950 central-place function index, 13 per cent of the 1960 central-place function index, and 26 per cent of sum of squares of rate of change in the central-place function index.

Further inspection of Tables 1 and 2 illustrates the distinctiveness of the metropolitan neighbor concept. It may be noted that the rate of population change, size of central-place function index for both 1950 and 1960, and rate of change in the central-place function index for the metropolitan neighbors fall between those for the suburbs and the hinterland towns with which these communities are usually grouped.[17]

At this point in the analysis we now address directly the question as to the relationship between community-population

TABLE 2

COMMUNITY ECOLOGICAL POSITION AND URBAN CENTRAL-PLACE FUNCTION INDEX 1950 AND 1960, AND PER CENT CHANGE IN INDEX, 1950–1960

Community Ecological Position	Urban Central Place Function Index				Per Cent Changes 1950–60	
	1950		1960			
	Mean	S D	Mean	S D	Mean	S D
Central cities	274	29	396	52	41.2	9.0
Suburbs	187	13	328	97	73.5	41.6
Metropolitan neighbors	268	58	357	58	34.4	8.7
Non-competitive trade centers	327	60	426	48	32.7	13.3
Competitive trade centers	303	52	400	67	32.7	13.4
Total urban places	292	70	391	67	35.8	16.7
F	3.72		3.18		5.72	
P	< .01		< .05		< .01	

[17] The differences between the metropolitan neighbors and the suburbs and trade centers may be illustrated in another way. The extent to which a community is an employing or a residential center is measured by the employment-resident ratio (E/R). This index has been used by students of the urban community to differentiate between employing and bedroom suburbs. The index is the ratio of the aggregate local employment to the resident labor force. When the size of the two is equal the index equals 100. Cities with a ratio of 116 or more are considered to be employing centers, while those with an index value between 85 and 115 are considered to be fairly balanced, and those with a ratio of less than 85 are considered to be dormitory centers. Thus, the lower the ratio the greater the bedroom function. The E/R values for large American cities are presented in the municipal yearbook. The E/R's were obtained for 1960 for the Iowa communities of 10,000 and over. The means by ecological category for the Iowa towns are:

Ecological Position	Mean E/R 1960
Central cities	116.0
Suburbs	77.6
Metropolitan neighbors	102.4
Trade centers	107.7

From these E/R values it may be noted that the metropolitan neighbors fall between the suburbs and the trade centers just as they do in terms of population change, central-function change, and size of central-place function. Also it may be noted that the Iowa central cities and suburbs conform to the general index norms. These data are from The International City Managers' Association, *The Municipal Year Book, 1963* (Chicago, 1963).

growth and central-place function expansion. The correlation coefficients between the two variables are presented in Table 3. For the total ninety-two urban places *there is no statistically significant correlation between community-population growth and expansion of central-place function for the 1950–60 period* ($r = .06$). Also, the correlations for the central cities and the suburbs are not significant; however, for the remaining towns (metropolitan neighbors, non-competitive trade centers, and competitive trade centers) the correlations are statistically significant, of moderate strength, and *negative*.[18]

TABLE 3

PRODUCT MOMENT CORRELATION BETWEEN URBAN CENTRAL-PLACE FUNCTION INDEX AND COMMUNITY POPULATION GROWTH BY ECOLOGICAL POSITION

Community Ecological Position	r*	
	Centrality Change and Population Change, 1950–60	1950 Centrality and Population Change 1950–60
Central cities	(−.63)	(.29)
Suburbs	(−.28)	(.01)
Metropolitan neighbors	−.53	(.29)
Non-competitive trade centers	−.57	.65
Competitive trade centers	−.45	(.26)
Total urban places	(.06)	(−.11)
Analysis of covariance test for interaction:		
F	1.03	1.07
P	> .05	> .05

* r values in parentheses are not statistically significant at .05.

The negative correlations indicate that those towns growing in population are doing so in spite of dwindling central-place functions, while those towns losing population tend to have expanding central-place functions. In attempting to explain this finding we first constructed Table 4 which is a cross-classification of eighty-one hinterland towns by rate of population change and by rate of expansion of central-place function. In the table it may be noted that 79 per cent of the towns grew in this period, although at very low rates (see Table 1). Also, most of the towns—62 per cent—were well below average in central-place expansion. Given the marginal values of the table we would expect most of the towns

TABLE 4

DISTRIBUTION OF HINTERLAND COMMUNITIES BY POPULATION CHANGE AND CENTRAL-PLACE FUNCTION EXPANSION 1950–60

Community Population Change	Central Place Function Expansion		Total
	Below Average (Less than 36%)	Above Average (36% and Over)	
Population growth	43	21	64
Population loss	7	10	17
Total	50	31	81

were growing in spite of their stagnant central-place functions.[19] It should be noted additionally that 68 per cent of the towns with expanding central-place functions also experienced population growth.

Perhaps the most curious aspect of the negative correlations is that 59 per cent of the towns losing population actually experienced expansion of their central-place functions. In attempting to explain this we sought to determine the general difference

[18] The analysis of covariance test for interaction was performed for these data. The resulting F ratio was not statistically significant. Thus we conclude that the form of the association does not differ greatly across the ecological categories. This result is largely a function of the similar correlations for the categories of hinterland towns which contain most of the communities.

[19] The observed number of towns in the cell Population Growth-Below Average Central Place Expansion is 43. The expected value for this cell as based upon usual χ^2 calculations is approximately 40.

between the communities losing population and those gaining. We found that with few exceptions those seventeen towns losing population are located in those areas of the state with the highest rates of rural out-migration, while the sixty-four towns gaining population are located elsewhere. We suspect that in the areas of rapid rural depopulation there is a marked reorganization and reconcentration of economic activities. Probably the first trade activities to feel the effects of change are those located in open areas, at crossroads, and in the small non-urban centers. The urban centers with central-place expansions in these areas are probably those which become the focal points of the economic reorganization. Thus, trade expansion is probably of short-run duration and certainly does not hold the town's own population.

Having demonstrated community-population growth is not a function of central-place function expansion, we now turn to the last aspect of the analysis. Here we sought to determine if the size of the central-place function in 1950 was correlated with population growth 1950–60. In Table 3 it may be noted that for the total ninety-two urban places there is no statistically significant correlation.[20] However, the r for the non-competitive trade centers is significant. Approximately 42 per cent of their relatively small amounts of growth (see Table 1) is statistically accounted for by the 1950 size of their central-place function. Thus, it seems that those non-competitive trade centers that grew in the period were the ones with the largest central-place functions.

CONCLUSIONS

The data presented here show that during the period of regional industrialization in Iowa central-place function was no longer a significant community-building activity. The population growth that characterized most of the towns was a result of other expansions of the local economic base. The growth-producing factors, however, differ across the ecological classes of cities. The process of growth through which the central cities were changed from service to metropolitan centers has been described in the work of Gras,[21] McKenzie,[22] Bogue,[23] Florence,[24] and Vance and Smith.[25] Essentially, the metropolitan centers are those communities which attract not only large-scale manufacturing and wholesaling but also have located in them the institutions of banking, finance, insurance, and mass communications which serve to integrate the region's economy and provide contacts with national and world markets. The growth of central-place function for these centers contributes little to local population growth when compared to that of the other expanding activities.

The population growth of the suburbs and metropolitan neighbors is largely a result of their proximity to the metropolitan centers. Even though they may have an expanding central-place function resulting from the development of suburban-shopping centers, their growth is mainly from their new role as dormitory or industrial satellite.

Most of the hinterland centers grew even though their central-place function had become stagnant. It seems that their growth

[20] The analysis of covariance test for interaction was performed for these data and the resulting F ratio was not statistically significant. This result is a reflection of the lack of significant association between the variables in four of the five ecological categories.

[21] N. S. B. Gras, *An Introduction to Economic History* (New York: Harper & Bros., 1922).

[22] R. D. McKenzie, *The Metropolitan Community* (New York: McGraw-Hill Book Co., 1933).

[23] Donald Bogue, *The Structure of the Metropolitan Community* (Ann Arbor: University of Michigan Press, 1949).

[24] P. Sargant Florence, "Economic Efficiency in the Metropolis," in R. M. Fisher (ed.), *The Metropolis in Modern Life* (Garden City, N.Y.: Doubleday & Co., 1955).

[25] Rupert Vance and Sara Smith, "Metropolitan Dominance and Integration," in Rupert Vance and Nicholas Demerath (eds.), *The Urban South* (Chapel Hill: University of North Carolina Press, 1954).

was largely a result of three factors. The first is through attracting some of the decentralizing industrial activities. For example, Taylor and Jones report that between 1950 and 1960 30 per cent of all new plants were located in small towns or in open country areas near towns of ten thousand or less.[26] While most of these plants are small employers, they serve to hold in the hinterland towns many families who find it economically feasible to combine part-time farming with industrial employment, but who would not be able to make it financially by farming alone. Such plants also provide jobs for many young adults who otherwise would be forced to migrate upon completion of their education in the rural areas.

A second source of employment in the hinterland towns is in the service of farm machinery. With the increasing complexity of farming equipment there is a growing need for mechanics to service the implements. Such service activities are usually located in conjunction with machinery dealerships in the hinterland towns.

The third source of population growth is in the expansion of colleges, hospitals, retirement villages, nursing homes, and state or federal penal institutions. Not only does the institutional population contribute to local growth but so, too, do the necessary jobs whose skills frequently demand the inmigration of individuals with specialized training.

While the focus of this study has been upon population growth and central-place function change, the findings are suggestive of further research questions: (1) What are the social structural and economic changes that take place in a community as it changes from trade center to commuter town? (2) What types of trade or service activities does a small town hold longest as it becomes caught in the expansion of a growing neighbor, and what types does it lose first? (3) Are the hinterlands of such non-economic institutions as churches, voluntary associations, and schools affected by transportation modernization in a manner similar to that of retail-trade activities?

The central-place model has been one of the most heuristically and empirically fruitful models accounting for city location and intercity dependencies. Urban ecologists should give further consideration to the dynamics of the model as social change disrupts original regional ecological patterns.

University of Illinois
and
Ohio State University

[26] Lee Taylor and Arthur Jones, *Rural Life and Urbanized Society* (New York: Oxford University Press, 1964), p. 114.

Social Level, Social Disability, and Gang Interaction[1]

Robert A. Gordon

ABSTRACT

Gradients ordering lower-class gang, lower-class non-gang, and middle-class responses to a semantic differential are interpreted as reflecting differences in rewards from interpersonal relations due to differences in the prevalence of psychopathology. Support is found in other studies and in other data. The theoretical inference is made that in groups in which interpersonal relations are insufficiently rewarding to be self-sustaining, group cohesiveness will depend upon activities that are facilitated, rather than hindered, by such personal limitations. Evidence in the literature suggests that the delinquent activities of gangs perform this latent function.

This paper presents evidence that, for adolescent boys, social life is less satisfying in lower than in upper social levels. Because delinquent gang boys seem differentiated in this respect even from non-gang boys of nominally similar socioeconomic status, it is suggested that it may be useful to think of gang boys as occupying a still lower position on a social level continuum, particularly when more informal social rather than economic criteria are taken into account. The same evidence points toward personality variables as being responsible for these differences in the quality of social life. When placed in the context of other findings and more general theory, this evidence suggests that a latent function of gang activity may be to sustain group life under otherwise unfavorable psychological conditions.

[1] This paper reports research conducted under grants from the National Institute of Mental Health (research grant M-3301) and the Ford Foundation, in co-operation with the YMCA of Metropolitan Chicago. Some additional statistical work was supported by a Social Science Research Council Faculty Fellowship to the author, from whose Ph.D. dissertation, "Values and Gang Delinquency" (University of Chicago, 1963), it is chiefly drawn; the present revision was completed October 24, 1966. It is a pleasure to acknowledge the helpfulness and patience of James F. Short, Jr., who was chairman of the dissertation committee and director of the original research project. The author is also indebted to Duncan MacRae, Jr., and Morris Janowitz, who also served on that committee. We are grateful, too, to Fred Hubbard, Charles N. Cooper, and the workers of the YMCA Program for Detached Workers in Chicago for their helpful comments and unstinting co-operation in the research. Valuable advice from Peter M. Blau, Raymond Breton, and Philip E. Slater has greatly improved the paper's readability.

DESCRIPTION OF SAMPLES

The data for this paper were obtained in Chicago from six samples: 163 Negro and 58 white delinquent gang boys; 69 Negro and 37 white lower-class non-gang boys living in the same neighborhoods as the gang boys; and 24 Negro and 41 white middle-class boys. The gangs were all included in a YMCA-sponsored street-worker program and had been selected largely because of their troublesomeness. Although a police-record search revealed some infractions among the non-gang boys, only the gang samples, with a much higher official delinquency rate, are regarded as being truly delinquent. We refer to the samples, therefore, as "gang," "lower class," and "middle class"; in addition, we distinguish them according to race (Negro gang, NG; Negro lower class, NLC; Negro middle class, NMC; white gang, WG; white lower class, WLC; white middle class, WMC).

With the exception of some of the WLC and NLC boys, who were drawn from set-

tlement houses, all of these samples are composed of members of named groups—gangs or clubs. (The distinction between gang and club, of course, lies mostly with the observer. Gang boys typically refer to their own group as a "club.") However, even in the exceptional cases of those obtained through settlement houses, virtually all of the boys from any one settlement knew each other well, so that the samples all consist of members of various natural groups.

The mean ages for samples ranged from sixteen to eighteen years.[2] Within each race, the gang and lower-class samples are similar to each other and not significantly different in socioeconomic status (SES); between races, the whites in each category are somewhat higher, and significantly so, than the corresponding Negroes.[3]

Despite the similarity in SES of the gang and lower-class boys, we will refer to the three samples within each race as though they were ordered in three different "social levels." This is not only convenient but also justifiable in view of the number of attitude gradients, observed in this and an earlier paper,[4] which fairly consistently ordered the samples the same as would their presumed similarity, that is, by placing lower-class non-gang boys intermediate between gang and middle-class boys. The heuristic implications of ordered categories, furthermore, are potentially so much richer than those of unordered categories that an opportunity to think in terms of the former ought not to be overlooked when it presents itself.[5]

SOCIAL LEVEL AND COMMITMENT TO PEERS

Our interpretations of the following data were arrived at inductively after having noted certain provocative regularities. Statistical tests of such *post hoc* hypotheses are, of course, open to question. However, even *post hoc* hypotheses can fail to reach statistical significance when tested, and therefore the statistical results are cited to show that this was not the case in the present circumstances.

These data are from a semantic differential[6] that was used to test hypotheses concerning differences between the values

[2] For additional details concerning the samples and their ages, see Robert A. Gordon, James F. Short, Jr., Desmond S. Cartwright, and Fred L. Strodtbeck, "Values and Gang Delinquency: A Study of Street-Corner Groups," *American Journal of Sociology*, LXIX, No. 2 (1963), 109–28. This paper is reprinted in James F. Short, Jr., and Fred L. Strodtbeck, *Group Process and Gang Delinquency* (Chicago: University of Chicago Press, 1965).

[3] The socioeconomic measurements were collected under the supervision of Ramon Rivera. They consist of the NORC ratings of the occupation of each family's main earner. The means of those scores, for the six samples in order, NG, NLC, NMC, WG, WLC, and WMC, were: 51.2, 53.7, 62.4, 56.9, 59.3, 77.8; standard deviations were: 9.4, 9.5, 13.7, 11.5, 11.0, 6.7; sample sizes were: 176, 69, 23, 54, 37, 41. On the NORC ratings, see Albert J. Reiss, Jr., *Occupations and Social Status* (New York: Free Press, 1961).

[4] Gordon *et al.*, *op. cit.* (n. 2).

[5] This ordering of the samples, together with the replication of consistencies among the social levels in two races, is an important supplement to statistical tests in making interpretations of the multiple comparisons that grow out of studying more than two samples simultaneously. In all instances, the multiple comparisons have been justified by the outcomes of prior analyses of variance, reported here or elsewhere. These comparisons are reported in detail in tables (indicated by alphabetic references) that have been deposited as Document No 9343 with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D.C. A copy may be secured by citing the document number and by remitting $1.25 for 35-mm. microfilm or $1.25 for 6 × 8-inch photocopies. Advance payment is required. Make checks or money orders payable to: Chief, Photoduplication Service, Library of Congress. Both the number of significant comparisons and their levels of significance help to indicate the extent that anything is going on in the data.

[6] Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, *The Measurement of Meaning* (Urbana, Ill.: University of Illinois Press, 1957). The factorial validity of the scales for the six populations in question was found to be highly satisfactory. See Robert A. Gordon, "The Generality of Semantic Differential Factors and Scales in Six American Subcultures" (unpublished M.A. thesis, University of Chicago, 1962).

of gang boys and the rest of society.[7] The values were presented in the form of brief descriptions of behavior—referred to as "images"—selected to represent styles of life thought typical of middle-class, lower-class, and certain hypothesized gang subcultures. The data of interest here consist of the mean scores for evaluation and legitimation assigned to just four of the original seventeen images by individuals within each of the six samples.

TABLE 1

EVALUATION AND SMARTNESS MEANS FOR SELECTED IMAGES*

Images	Negro			White		
	Gang	Lower Class	Middle Class	Gang	Lower Class	Middle Class
	Evaluation					
Stik.......	4 65	4.75	4 58	4 61	4 92	4 41
Cool . .	4 85	4 72	4 55	5 03	4.78	4 57
Gang	4 63	5 24	5 92	4 56	5 00	5 81
Self ..	5 26	5 64	5 92	4 88	5 24	5 50
	Smartness					
Stik ...	5 20	5 51	4 96	5 64	5 46	4 98
Cool... .	5 63	5 26	4.12	5 90	4.54	3.76
Gang....	5 58	5 71	6 00	5.40	5.43	6.05
Self... ...	5.79	5.49	5.75	5.14	5 14	5.63

* Higher scores indicate higher evaluation and higher smartness ratings

"Evaluation" is the most prominent of the usually observed semantic differential factors, and in the present instrument it was measured by the average of the five following seven-point scales (scores 1 to 7, "good" being high): "good-bad," "clean-dirty," "kind-cruel," "fair-unfair," and "pleasant-unpleasant."

"Legitimation" was measured by a single scale, "smart-sucker," on the basis that compliance with norms lacking in legitimacy would cause one to be perceived as a sucker. Evidence indicating that "smartness" has a coldly practical aspect and is thus sensitive to behavior that a person would actually endorse after a realistic appraisal of its utility has been presented elsewhere.[8] Evaluation, on the other hand, appears to evoke a more purely moralistic response. In all samples both scores gave evidence of being related positively to preference.

For brevity we refer to the images by four-letter mnemonic labels. The first two images of interest suggested differences between the samples in the relative utilities they assigned to being alone, on the one hand, and to commitment to friends in danger, on the other. These two images and their labels were:

COOL: Someone who stays cool and keeps to himself.

STIK: Someone who sticks by his friends in a fight.

Our attention was caught by the pronounced gradients that appear within each

[7] Gordon *et al.*, *op. cit.* (n. 2).

[8] *Ibid.*

race when each social level's smartness rating for Stik is compared with its smartness rating for Cool. Subtraction of these Cool means from the Stik means (equivalent to taking the mean of the differences for each individual) produces the following progression in each race.

	NG	NLC	NMC
	−.43	.25	.84
$p<$	.05	N.S.	.10

	WG	WLC	WMC
	−.26	.92	1.22
$p<$	N.S.	.01	.01

The four positive values indicate that all non-gang samples rated Stik (commitment to friends in danger) smarter than Cool (detachment). Within each race the three social levels display an identical ordering. Between races there is a differential between corresponding social levels, for example, NG as compared with WG, that is consistent with the ordering within races, in that each white sample is of higher SES than its corresponding Negro sample, and each has also a higher value for the difference between Stik and Cool. Eight of the fifteen possible differences between these differences are also statistically significant.[9]

Other than sheer accident, what could produce these patterns with their considerable evidence of statistical reliability? Stik represents a person who chooses to remain with his friends under conditions of personal risk. Since we see in Table 1 that gang and lower-class boys rated Stik smarter than middle-class boys, there is no indication that either their greater experience with fighting or the presumably greater danger posed by fights in their environment causes them to view sticking with friends in a fight as absolutely unwise. Moreover, the differences between the social levels are far greater for the image Cool than for the image Stik. This suggests that it is the differential attractiveness of non-involvement that is mainly responsible for the differences between samples. Possibly, an explanation lies in some implicit relation between the two images.

The description of Cool included the phrase "and keeps to himself." "Coolness" itself carries a strong implication of aloofness and detachment.[10] Thus, it would appear that a principal distinction between Cool and Stik lies in the contrast between detachment from and involvement with others. If so, this could be the key to explaining why it is that although middle-

[9] See Table A for details (n. 5).

[10] In his description of the Negro narcotics user, Harold Finestone has included being smart as one of the elements in being "cool." (See his "Cats, Kicks and Color," *Social Problems*, V [July, 1957], 3–13.) Although this would suggest that Cool ought to receive high smartness ratings, perhaps especially from Negroes and gang boys, there is also support for our interpretation of "cool." In the *Dictionary of American Slang* (eds. Harold Wentworth and Stuart Berg Flexner [New York: Thomas Y. Crowell Co., 1960]), the listing for "cool" states, "In complete control of one's emotions; hip but having a quiet, objective, aloof attitude; indifferent to those things considered nonessential to one's individual beliefs, likes, and desires. . . . Aloof; unconcerned; disdainful; emotionless and amoral . . . disaffiliated." As an example of its usage, the dictionary quotes, "I stay cool, far out, alone." Richard A. Cloward and Lloyd E. Ohlin (*Delinquency and Opportunity* [Glencoe, Ill.: Free Press, 1960], pp. 26–27) feel that Finestone's focus is on "hipsterism" rather than on drug-using groups generally. According to them, "the word 'cool' also best describes the sense of apartness and detachment which the retreatist experiences in his relationship with the conventional world." In our earlier paper, it was also shown that all of these boys rated a drug-user image lower on smartness than any other image, thus indicating that in these boys' minds smartness is far from being perfectly linked with the drug subculture. See Gordon *et al.*, *op. cit.* (n. 2), p. 124. We, ourselves, have been impressed by the readiness of adult Negro heroin addicts to characterize involvement with drugs as being "stupid." The question should be raised as to whether statements to the contrary do not contain a heavy measure of bravado.

class boys show themselves ***relatively less willing*** to endorse exposing oneself to the risks of a fight, they nevertheless consider it *smarter to do so* than to engage in the clearly innocuous, legal, and perfectly safe behavior described in the image Cool. (Certainly, the reason is not that they find it morally questionable to be Cool—compare in Table 1 the evaluation means of middle-class boys for Cool and Stik.)

Preference, we know, almost by definition, is governed by the net reward of the chosen alternative. In the present instance, it would seem that for non-gang boys the rewards of involvement with others outweigh the hazards implied in Stik, so that the net rewards there are greater than those anticipated from detachment, as described in Cool. For gang boys, the reverse would hold. Thus, even though gang boys seem to prefer both Stik and Cool more than middle-class boys, the direction of the difference is not the same in both cases. Unlike the non-gang boys, the gang boys seem to prefer non-involvement to involvement. As an explanation we advance the following argument.

There is no reason to believe that detachment per se is objectively rewarding on such an absolutely high level in the life of gang boys that this is what makes Cool so attractive for them. Far greater possibilities for variation in the objective circumstances affecting net satisfaction lie with involvement with others. We infer, therefore, that in the experience of gang boys involvement has been less rewarding than in the experience of non-gang boys; hence, in rating Cool, the costs of the forcgone alternative are far less for the gang boys. We suggest as a hypothesis, therefore, that the observed gradients are related to social level, and to race, in a manner congruent with the degree of reward provided by social life within each category. The "others" from whom experience may be generalized to these responses would include all those with whom one engages in primary group relations—especially neighborhood peers and family members. The basis for these conjectured differences in the net rewards of involvement is suggested by the two images to be discussed next.

SOCIAL LEVEL AND PEER EVALUATIONS

There is substantial evidence linking the two variables generally known as "acceptance of others" and "acceptance of self" to a number of other variables. Both have been shown to increase in the course of psychotherapy.[11] Acceptance of self has been found to be related directly to sociability, high sociometric popularity, scholastic performance independent of aptitude, and social participation,[12] and related inversely to measures of maladjustment, anxious insecurity, and nervous tension.[13] Further-

[11] Elizabeth T Sheerer, "An Analysis of the Relationship Between Acceptance of and Respect for Self and Acceptance of and Respect for Others in Ten Counseling Cases," *Journal of Consulting Psychology*, XIII (June, 1949), 169-75.

[12] Ralph H. Turner and Richard H. Vanderlippe, "Self-Ideal Congruence as an Index of Adjustment," *Journal of Abnormal and Social Psychology*, LVII, No. 3 (1958), 202 6.

[13] Gene Marshall Smith, "Six Measures of Self-Concept Discrepancy and Instability: Their Interrelations, Reliability, and Relations to Other Personality Measures," *Journal of Consulting Psychology*, XXII, No. 2 (1958), 101-12. Most of these relations have been studied repeatedly, with a variety of instruments, and occasional null findings have been reported. However, a check of Wylie's recent comprehensive survey reveals her in agreement that the trend of findings in each case is as we indicate. See Ruth C. Wylie, *The Self Concept* (Lincoln, Neb: University of Nebraska Press, 1961). More recently still, Rosenberg has replicated many of these findings and has also presented impressive validating evidence in his study of adolescents. See Morris Rosenberg, *Society and the Adolescent Self-Image* (Princeton, N.J.: Princeton University Press, 1965). For evidence of the relation between mental health and the self concept among Negroes, see Seymour Parker and Robert J. Kleiner, *Mental Illness in the Urban Negro Community* (New York: Free Press, 1966), p 172.

more, both have been found to correlate positively with each other.[14]

The evaluation scores of two of the images rated by the boys serve nicely as measures of acceptance of others and of self.[15] Consequently, they provide indirect evidence concerning the variables that have been found to be concomitants of these two forms of acceptance. The two images and their labels were:

GANG: Someone who is a member of [the group's name was entered or, if none existed, "your friendship group"; instructions were to think in terms of a "typical member" of the group].
SELF: Myself as I usually am.

Table 1 shows that for both measures of acceptance, within both races, the same pattern appears—gang boys are lowest and middle-class boys are highest. These patterns, incidentally, are distinctly different from the predominant pattern shown by other images, such as Stik and Cool, in the same instrument. For the most part, lower social levels were consistently as accepting or more accepting than higher levels toward the images in the instrument—in the present case, it is the higher social levels that are more accepting. This sharp differentiation of patterns according to the content of the images is an added indication that the responses are meaningful. The observed patterns suggest that the social levels are ordered with respect to the concomitants of self-acceptance, and that in this ordering gang boys occupy the least favorable position with respect to psychological health and interpersonal functioning. Moreover, even if we view the responses to Gang simply as objective descriptions without pejorative implications in the faint praise that lower-strata boys accord their peers, it would remain true that gang boys describe their peers as being less kind, less pleasant, less fair, etc., than did lower-class boys, who in turn stood in the same relation to middle-class boys.[16] This in itself would indicate important differences in the quality of relations with those peers.

Obviously, the differences in evaluation between Gang and Self might also prove relevant here. Subtracting Self from Gang again yields gradients such that (1) the three social levels are ordered, (2) there is replication in the two races, and (3) there is a racial differential in favor of whites,

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[14] See, for example, Sheerer, *op. cit.* (n. 11); Dorothy Stock, "An Investigation into the Interrelations Between the Self Concept and Feelings Directed Toward Other Persons and Groups," *Journal of Consulting Psychology*, XIII (June, 1949), 176-80; E. Lakin Phillips, "Attitudes Toward Self and Others: A Brief Questionnaire Report," *Journal of Consulting Psychology*, XV (1951), 79-81; Emanuel M. Berger, "The Relation Between Expressed Acceptance of Self and Expressed Acceptance of Others," *Journal of Abnormal and Social Psychology*, XLVII, No. 4 (1952), 778-82; Katherine T Omwake, "The Relation Between Acceptance of Self and Acceptance of Others by Three Personality Inventories," *Journal of Consulting Psychology*, XVIII, No. 6 (1954), 443-46; Smith, *op. cit.* (n. 13); and Richard M. Suinn, "The Relationship Between Self-Acceptance and Acceptance of Others: A Learning Theory Analysis," *Journal of Abnormal and Social Psychology*, LXIII, No. 1 (1961), 37-42.

[15] In addition to face validity, the scores behave as would be expected of the two measures. For example, over all four hundred respondents they correlated .44 ($p < .0001$). Within each of the six samples, the two images in question were correlated more highly than most other paired combinations of the seventeen images in the entire instrument. In the order NG, NLC, NMC, WG, WLC, WMC, these correlations were: .49, .39, .82, .41, .28, .44. All but the one for WLC are significant at the .01 level. For sample sizes, see n. 3.

[16] For the results of *t* tests between the samples of the means for each image, see Table B. Ideally, for total consistency, the Negroes, being lower in SES, should rate Self and Gang lower than their corresponding white samples. That they do not may reflect the susceptibility of these items to additional influences, such as defensive self-esteem or narcissism, that introduce between-race variance without affecting the between-levels variance within races. Concerning narcissism and self-esteem, see the comments in Gordon *et al.*, *op. cit.* (n. 2), p. 122.

who are higher in SES. The figures are as follows:

	NG	NLC	NMC
	− 63	− 40	.00
$p<$......	.001	.01	N.S.

	WG	WLC	WMC
	− 32	− 24	.31
$p<$......	N.S.	N.S.	.01

The higher the social level, the less likely a boy was to rate himself as "better" (in evaluation) than his peers; being white had the same effect, so that the white middle-class boy rated his peers as being better than himself. Seven of the fifteen differences between these differences are significant.[17]

To review briefly, we have seen that the smartness scores for Stik and Cool suggest that the rewards of involvement over detachment are directly related to social level and that the evaluation scores for Gang and Self suggest an invidious comparison in which lower-strata boys see themselves as "better" than their peers. Taken separately, the images Gang and Self, as measures of acceptance of others and of self, suggest greater maladjustment on the part of lower-strata boys. Since both lower-class samples conformed to the gang pattern in the comparison between Gang and Self, to the middle-class pattern in the comparison between Cool and Stik, and fell intermediate in the evaluation of Self and Gang, a trend that varies monotonically with social level is implied overall as well as in the individual effects.

These interpretations point both to reactions to a reward deficit in interpersonal relations in lower social levels as well as to conditions, such as maladjustment and misbehavior, that might give rise to such a reaction. We suggest, therefore, that beneath the surface solidarity of the gang—upon which gang boys may be presumed to depend for a disproportionate share of their total satisfaction—there is an undercurrent of mutual frustration and dissatisfaction. If so, it may be the case that as a result gang cohesiveness tends to be based disproportionately upon the more common denominators of human experience—mutual catering to impulses which from a developmental standpoint are infantile; and shared danger, sex, and guilt (in the sense of complicity). In view of this suggestive evidence, it struck us as potentially useful to consider gang behavior not merely as expressive either of individual psychological disturbances or of group norms but also as a complex of techniques through which boys in a group strive to elicit nurturant, accepting, and highly dependable responses from each other—perhaps to compensate for deprivation in their family backgrounds or other institutional contexts—*despite a generally reduced capacity on the part of those concerned to provide such responses.* Before elaborating this point of view, we shall first present additional evidence.

[17] For results of tests of the differences between these differences, see Table A.

PERSONALITY AND DELINQUENCY

As a rule, sociologists have been, to put it mildly, unreceptive to the view that personality disturbance plays an important role in delinquency. The two major sources of evidence for this contention have been clinical observation and personality tests.

Especially in the field of criminal behavior, sociologists have been inclined to let the difficulties that clinicians encounter in validating their most intuitively derived propositions blind them to the value of clinical evidence in general—even when it concerns phenomena that are much more accessible to observation, such as the simple fact of sickness or health. However, unless we are willing to assume that clinicians are deluded on a grand scale, such evidence cannot be so easily dismissed.

The chief restraint upon this discounting

of clinical evidence was removed for many sociologists when an influential review of studies employing personality tests concluded that there was no evidence—even in this more objective realm—for differences between criminals and non-criminals.[18] Seemingly, both major sources could thereafter be safely ignored. However, a recent re-examination of the literature covered by the earlier review indicates that the existing evidence definitely favors the conclusion that criminals and delinquents do suffer from personality disturbances.[19]

This is not the place to detail the findings upon which that conclusion is based. Instead, let us take note of some studies that are either more general in their import or that bear more directly on the question of the quality of interpersonal relations and social level.

We have suggested that the apparently more negativistic attitudes toward peers in lower social levels reflect a deficiency in the rewards of their interpersonal relations, and that this is due in turn to personality disturbance. Support for this contention certainly does exist, as we shall now show.

A major body of evidence consists in repeated findings that the prevalence of psychopathology is greatest in the lowest social stratum;[20] the same stratum that produces gang delinquents. Since it is especially within the family that maladjustment is both a cause and a product of personality disturbance in others, a mechanism of intergenerational transmission appears reasonable.

Personality maladjustment interferes both with one's ability to reward others *and* with one's subjective perception of the extent to which others are rewarding to oneself. Consequently, although less immediately indicative of psychopathology, evidence that social life is of a poorer quality in lower socioeconomic strata is consistent with our hypotheses.[21] Suggestive also are findings that show the frequency of self-reported happiness to be inversely related to social level.[22] Although unhappiness is, of course, not necessarily a reflection of personality disturbance, it does imply a state conducive to as well as caused by decreased interpersonal effectiveness, both in oneself and in the social environment. Scores on Srole's anomie scale, with content clearly related to these considerations, have been found repeatedly to be inversely related to socioeconomic level.[23]

[18] See Karl F. Schuessler and Donald R. Cressey, "Personality Characteristics of Criminals," *American Journal of Sociology*, LV, No. 5 (1950), 476–84

[19] Robert A. Gordon, "Personality Differences Between Criminals and Noncriminals; A Reconsideration" (Baltimore: Department of Social Relations, Johns Hopkins University, 1967 [mimeographed]).

[20] For citations to this literature, see *Ibid*

[21] For example, marital relations appear to be poorer in lower strata. See Norman M. Bradburn and David Caplovitz, *Reports on Happiness* (Chicago Aldine Publishing Co., 1965), pp 39–41; and Robert O Blood, Jr, and Donald M Wolfe, *Husbands and Wives* (Glencoe, Ill.: Free Press, 1960), pp. 228 and 253. We are indebted to Alan F. Blum for these references; see his "Social Class Variations in the Patterning of Personal Relationships" (Chicago: Department of Sociology, University of Chicago, 1963 [mimeographed]), for other relevant literature as well as comments on this paper. See also Mirra Komarovsky, *Blue-Collar Marriage* (New York: Random House, 1964); and Arthur L. Simpson, "Disruption and Cohesion in Lower-Income Negro Families" (unpublished M.A. thesis, Howard University, 1965).

[22] Bradburn and Caplovitz, *op. cit.* (n 21), and Alex Inkeles, "Industrial Man: The Relation of Status to Experience, Perception, and Value," *American Journal of Sociology*, LXVI, No. 1 (1960), 1–31.

[23] Leo Srole, "Social Integration and Certain Corollaries. An Exploratory Study," *American Sociological Review*, XXI, No. 6 (1956), 709–16; Alan H. Roberts and Milton Rokeach, "Anomie, Authoritarianism, and Prejudice: A Replication," *American Journal of Sociology*, LXI, No 4 (1956), 355–58; the letter to the editor by Srole, *American Journal of Sociology*, LXII, No. 1 (1956), 63–67; Wendell Bell, "Anomie, Social Isolation, and the Class Structure," *Sociometry*, XX, No 2 (1957), 105–16; Edward L McDill, "Anomie, Authoritarianism, Prejudice, and Socioeconomic Status: An Attempt at Clarification," *Social Forces*, XXXIX, No. 3 (1961), 239–45; Dorothy L. Meier and Wendell Bell, "Anomia and Differential Access to the Achievement of Life Goals," *American So-*

Srole himself has described anomie as "interpersonal dysfunction in the social realm." More recently, McClosky and Schaar have demonstrated empirical relations between anomie and numerous psychopathological personality variables, among other things.[24] Although their anomie items were somewhat different from Srole's, they also found the same inverse relationship between anomie and SES that he did.

Corresponding evidence pertaining to delinquents proper, and implicating the family as the source of difficulty, is both varied and abundant. As far back as 1936, Healy and Bronner reported 91 per cent of their delinquents emotionally disturbed, as opposed to only 13 per cent of their controls, even though the latter were drawn from the same families as most of the delinquents.[25] They attributed this disturbance principally to emotionally unsatisfying family relationships involving the delinquent offspring more heavily than non-delinquent siblings.

In what may be their best data, the Gluecks have revealed important differences between the family backgrounds of their delinquents and of their non-delinquents. The delinquents' parents showed more serious physical ailments, mental retardation, emotional disturbance, drunkenness, and criminality. Within the delinquents' families marital relations were poorer, there were less family cohesion, less affection shown the son by both parents, and greater resort to physical punishment. It is not surprising that the delinquent sons felt weaker emotional ties to both parents and expressed a markedly lower estimate of their parents' concern for their welfare than did the non-delinquents.[26]

In a study of normal, neurotic, and delinquent boys and girls which is especially interesting because the subjects ranged in age from six to twelve, Jackson found that the delinquents tended to view the parents in thematic pictures suggesting family situations as rejecting and as meting out severe punishment. Children in the pictures were seen as bad. She felt that her results "suggest the existence of seriously disturbed emotional relationships in the families of the delinquent and the neurotic, whereas no such disturbance appears to exist in the families of the normal." The delinquents' responses also "suggested an unusual measure of detachment from the family."[27]

Bandura and Walters have reported a number of provocative findings in their study of extremely aggressive boys. Control boys, for example, were significantly "warmer toward peers" than the aggressive boys, and the parents of the control boys tended to be significantly warmer and less rejecting toward their sons than the parents of the aggressive boys. Perhaps even more interesting is their finding that the aggressive boys were consistently more conflicted and anxious about manifesting dependency behavior. This included their greater resistance to confiding in and seeking help from peers. While not significant, the difference in the extent to which the two samples felt rejected by their peers was in the right direction, the aggressive boys feeling more rejected. The authors' comment upon this outcome is itself revealing: "Since they remained distant and aloof from the majority of their peers, they perhaps forestalled some of the rejection that their hostility might have elicited had they sought out the company of their peers more actively."[28] (Since

ciological Review, XXIV, No. 2 (1959), 189-202; Ephraim Harold Mizruchi, "Social Structure and Anomia in a Small City," *American Sociological Review*, XXV, No. 5 (1960), 645-54.

[24] Herbert McClosky and John H. Schaar, "Psychological Dimensions of Anomy," *American Sociological Review*, XXX, No. 1 (1965), 14-40.

[25] William Healy and Augusta F. Bronner, *New Light on Delinquency and its Treatment* (New Haven, Conn.: Yale University Press, 1936), p. 122.

[26] Sheldon and Eleanor Glueck, *Unraveling Juvenile Delinquency* (New York: Commonwealth Fund, 1950), chaps. ix-xi.

[27] Lydia Jackson, "Emotional Attitudes Towards the Family of Normal, Neurotic and Delinquent Children," *British Journal of Psychology*, General Section, XLI (1950-51), 35-51 and 173-85.

[28] Albert Bandura and Richard H. Walters, *Adolescent Aggression* (New York: Ronald Press, 1959), pp. 49, 58, 71, and 83.

these aggressive boys were not necessarily members of gangs, their peers are more apt to be representative of adolescents generally than are the peers of our gang boys, who are themselves gang boys.)

And after studying the attributes which delinquent and non-delinquent boys attach to high social status, Rothstein reported:

> While 13.5 per cent of the delinquent boys chose loyalty as one of the three attributes on the list counting the most for giving a person high social status, 26.7 per cent of the non-delinquent boys selected this attribute. While 33.1 per cent of the delinquent boys perceived trustworthiness as one of these attributes, 53.1 per cent of the non-delinquent boys did so.
>
> These figures appear to throw serious doubt on the generally held assumptions of in-group loyalty and solidarity among teen-aged law violators as a whole and the greater stress they are supposed to place on these factors as contributing to high social status. Rather, what these data strongly imply is either a greater mistrust of others, *including their peers*, a lesser emphasis on these attributes as major factors for status-rating, or both.[29]

SOCIAL DISABILITY

Taken together, the above findings suggest that it might be useful for sociologists to think in terms of an intervening variable, one that is the resultant of many different antecedent variables such as, for example, maladjustment, acceptance of self, dependency conflict, anxiety, and parental rejection. For convenience, we shall refer to this intervening variable as social disability, and on the consequent side we shall attempt to link it with gang delinquency by posing the question: What is the nature of interaction in groups in which the parameters for anxiety, emotional disturbance, and acceptance of others—or, more globally, social disability—approach undesirable levels? Posing the question this way gives full recognition to the sociologist's insistence upon the causal relevance of the group above and beyond the psychological states of individuals. The potential utility of an intervening variable in this situation rests in being able to operationalize it so as to show its connections to both antecedent and consequent variables, thus making it possible to trace causality despite the existence of many different but perhaps functionally equivalent causal phenomena.

The nature of our argument may become clearer by contrasting social disability with anomie. McClosky and Schaar's recently stated position is much closer to our own than Srole's. Throughout much of their paper, they treat personality variables as causes of anomie, but in the closing passages they acknowledge that all of these "symptoms of distress" may reflect a single "complex and pervasive malaise." This final position, in which anomie is not assumed necessarily to be a distinct variable in its own right, is actually the more cautious one. Until evidence shows otherwise, it is more parsimonious to regard anomic attitudes as but one of the many possible reflections of global maladjustment than as caused by maladjustment, except to the extent that maladjustment itself tends to be self-aggravating.[30]

Another difference, reduced somewhat with the appearance of McClosky and Schaar's paper, is that anomie has been assumed to be the dependent variable in relation to such measures of isolation as lack of participation in formal and informal groups,[31] whereas the perspective of social

[29] Edward Rothstein, "Attributes Related to High Social Status: A Comparison of the Perceptions of Delinquent and Non-Delinquent Boys," *Social Problems*, X, No. 1 (1962), 75-83.

[30] McClosky and Schaar, *op. cit.* (n. 24). Factor analysts will find this a reasonable viewpoint. McClosky and Schaar's data and their "pervasive malaise" interpretation, for example, bear out the earlier finding by McDill, *op. cit.* (n. 23), that authoritarianism, anomie, prejudice, and low SES combine to form a "negative *Weltanschauung*" factor. Sociologists tend to overlook the suggestion that construct validation include evidence that the variable in question is different from other variables. On this point, see Donald T. Campbell and Donald W. Fiske, "Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix," *Psychological Bulletin*, LVI, No. 2 (1959), 81-105.

[31] Bell, *op. cit.* (n. 23), p. 110.

disability indicates that it could plausibly be the independent variable, causing nonparticipation.

The most important remaining difference, perhaps, is the degree to which social disability focuses attention more directly upon its consequences for face-to-face relationships. From the point of view of a hypothetical ego, for example, at least three distinct, and possibly independent, components seem implicit thus far. These are:

1. Ego is less rewarding to alters.
2. Ego misjudges just how rewarding he is to alters, tending either to overestimate or to underestimate the value of his activity.
3. Ego, because of past deprivation, is excessively demanding and hence prone to be dissatisfied with actual attempts by alters to reward him.

These components would be matched, of course, by another three that are symmetrical but which apply to alters. Clearly, when these conditions are present to any high degree, the stage is set for interaction to quickly degenerate. The failure to meet expectations in interaction is, in fact, the essence of Parson's paradigm concerning the origin of motivation to deviate.[32] It would follow that in an environment where many expectations go chronically unmet, deviant behavior would be rampant.

Thus, the viewpoint of social disability also emphasizes to a greater degree than that of anomie the veridicality of the perception to which feelings of alienation are a response. It states that other persons in the environment *really are* less rewarding, while allowing at the same time for perceptions of others to have become distorted as a result of unfavorable past experience. It recognizes that anomic attitudes in ego may reflect the treatment he receives at the hands of the maladjusted alters who constitute his primary group companions. Thus, McClosky and Schaar's closing interpretation, although appropriate for egos in an alterless environment, does not take into account the consequences for ego of being surrounded by others as maladjusted as he is, or more so.

This is an important consideration, inasmuch as the distribution of maladjusted persons in society appears to be such that maladjusted egos, particularly in the lower strata, are apt to have other maladjusted egos as alters. This condition would be expected to produce both projective *and* reality components in ego's negative assessment of his current social relationships. While the empirical evidence for there being a greater concentration of many forms of deviancy in the lower strata may be clear enough, the significance of this for members of those strata is more likely to be disputed. Before presenting what additional data we have that bear upon this issue, we shall try to suggest some of the reasons why it is so subject to dispute.

The principal social defense against noxious deviant behavior is physical distance. Generally, it is the potential victim who removes himself from contact with deviants —it is only in extraordinary cases, actually, that we remove the deviant. Expectations that reasonable persons will exercise this most fundamental precaution are so strong that failure to do so actually shifts some measure of culpability onto a victim. The evacuation and avoidance of areas containing deviant persons by those who are able to leave lead to an intensification of exposure to noxious behavior for those who remain. Among the reasons for not leaving, economic considerations are, of course, paramount. Some will remain, however, because of an inability to envisage themselves in other styles of life, which tend to be correlated with economic changes, or because they find it necessary to trade acceptance of others' social liabilities in return for acceptance of their own. Whatever the reason, lower-strata persons often find

[32] Talcott Parsons, *The Social System* (Glencoe, Ill.: Free Press, 1951), chap. vii. We suggest that the initial unmet expectations date back to infancy and childhood and center within the family, producing personalities who thereafter tend to react to even favorable situations with inappropriate expectations and deviant behavior.

themselves in a punishing interpersonal environment that they cannot easily escape.

It is this assumption that their environment is punishing that is so likely to be challenged. Because they have not availed themselves of the defense of distance, there has been a tendency to exaggerate the extent to which members of the lower class are adapted to the noxious aspects of their environment.[33]

For deviants, this reasoning is carried a step further. We are prone to assume that in the camp of the enemy solidarity is monolithic. "As thick as thieves," among whom there is honor, the sayings go.

A tendency in naïve psychology, furthermore, to attribute conscious motives to people that are consistent with their observed behavior leads middle-class persons to ascribe a value system to deviants that is the exact antithesis of their own.[34] The fact that they infer these values from limited observations only does not detract from their impression of a common allegiance that unites deviants with each other within their own subculture as strongly as it sets them apart from the rest of society. The principle that in moral matters there can be no neutrality seems to be a special case of this. As a result, the futility of indignation for lower-class persons, and its absence consequently in situations that would outrage bourgeois sensibilities, is viewed by the layman as evidence of their turpitude. That turpitude is an irrelevant concept in terms of the professional detachment with which sociologists consider the values of deviants does not alter the fact that they too have reached essentially the same conclusion concerning the content of those values.[35]

Ultimately, of course, the question of the reactions of lower-class persons to their interpersonal environment is one to be settled empirically. However, existing preconceptions concerning this issue are sometimes so strong that it is necessary to challenge them on both the theoretical and the empirical levels.

SOCIAL LEVEL AND PEER RELATIONS

Keeping in mind the semantic differential data and some of the studies cited above, we sought additional evidence among the items of a long instrument that had been read to the boys while they responded by moving switches controlling lights visible only to the investigator. Fifteen of the items were selected because they seemed to deal in some manner with relations with peers. Like all of the items of this instrument, they offered three choices of response: "agree," "indifferent," and "disagree." These responses were assigned the scores 2, 1, and 0, respectively, so that higher scores indicate greater agreement.[36]

In order to clarify the meaning of these make-do items, the were intercorrelated and factor analyzed. Two factors appeared to represent the best solution.[37] The items,

[33] Simpson, *op. cit.* (n 21), p. 27, gives a nice example, as follows: "Drake and Cayton state that 'a lower class woman thinks she has a good old man if he will work when he can and if he does not spend all his money on gambling and drinking.' Contrary to Drake and Cayton's findings, this researcher discovered that these women did not think that they had a 'good old man' if he did not participate more fully in the family unit." The reference is to St. Clair Drake and Horace Cayton, *Black Metropolis* (New York: Harcourt Brace & Co., 1945), p 586. We do not think that the difference in these two viewpoints is explained by their being separated by twenty years.

[34] We have in mind unpublished data of our own.

[35] See, for example, Albert K Cohen, *Delinquent Boys* (Glencoe, Ill.: Free Press, 1955), and Ruth Shonle Cavan, "The Concepts of Tolerance and Contraculture as Applied to Delinquency," *Sociological Quarterly*, II (1961), 243-58

[36] The author is grateful to Desmond S Cartwright, principal investigator of this phase of the research, for permission to use these data.

[37] Eigenvalues dropped sharply after the second factor and remained level thereafter, so that the difference between the third and seventh eigenvalues was less than that between the second and third Furthermore, various varimax rotations of from two through six factors were examined, but only the solution for the first two factors seemed interpretable; hence, we present only the varimax rotation of the first two principal axis factors There was no indication that an oblique solution

their factor loadings, and the mean agreement of each sample with each item are shown in Table 2. Because the factors are conceivably subject to two interpretations, we prefer to leave them unnamed and to discuss the results in detail as they bear on these alternatives.

Consider first the agreement means of those items that identify factor I. Items 1 and 3 produce gradients exactly like those we found in the semantic differential data, while items 2, 4, and 6 (taking into account the scoring direction and sense of 6) come extremely close to this pattern. Perhaps more than any other item, number 1 most closely approximates the attitude toward relations with others that we suspected would be found disproportionately among lower-strata boys. Of all fifteen items, these first six contribute 64 per cent of the sixty-six significant differences between samples.[38] The first five are pure factor I items, and the sixth is common to both factors (Table 2). A total score based upon these factor

was warranted. On these procedures, see Harry H. Harman, *Modern Factor Analysis* (Chicago: University of Chicago Press, 1960).

[38] For details of these t tests between the samples of the means for each item, see Table C (n. 5).

TABLE 2

PEER RELATIONS ITEMS, THEIR FACTOR LOADINGS, AND THEIR MEAN AGREEMENT SCORES

Items	Factor Loadings			Mean Agreement*					
	I	II	h^2	NG	NLC	NMC	WG	WLC	WMC
1. Friends are generally more trouble than they are worth.	− 72	.23	.57	1.11	.73	37	.64	30	00
2. Most guys play ball just to kill time.	− 59	27	.42	.94	.76	.18	52	35	.39
3. It's much more fun to watch a game than to play it.	−.50	.28	.33	.50	41	15	29	.11	07
4. Time spent with the guys is time wasted.	−.43	− 09	19	.70	.56	.48	.71	.46	.27
5. People can have too many friends for their own good.	−.42	−.18	21	1 60	1 46	1 67	1 48	1 08	1 37
6. A guy should spend as much time with his friends as he possibly can	.37	.47	.36	87	91	1 30	1 02	1 46	1 37
7. The best athletes generally have the most friends.	− 03	.62	.39	1.16	1 17	.89	1 00	.95	1 02
8. It is better not to do things at all if you can't do them with friends.	− 21	52	.31	.70	74	.85	.79	.54	29
9. People who have lots of friends are happier.	.28	.50	.33	1 33	1.33	1 18	1 53	1 51	1 44
10. You can only be really alive when you are with friends.	−.13	.47	.24	1 18	.90	1 11	1 10	1 05	51
11. The most important thing in life is to help other people.	− 08	.45	.21	1 41	1 26	1 26	1 17	1 46	1 20
12. Playing on a handball or basketball team is one of the best things a guy can do.	.17	.34	.14	.94	1.19	1.11	.97	1 41	.93
13. Everyone needs to be alone sometime.	.15	−.04	02	1.80	1.74	1 93	1.88	1.87	1.95
14. A guy can really have a good time alone with his own thoughts and dreams.	− 13	− 02	02	1 15	1 16	.93	.84	84	1.24
15. Too many people look out only for themselves these days.	03	−.09	01	1 80	1 77	1 96	1 66	1 84	1 88

* Higher scores indicate greater agreement.

I items (appropriately reversing the scoring of 6) exhibits the previously observed gradients exactly:

Items	NG	NLC	NMC
1-6	5 86	4 83	3 79

Items	WG	WLC	WMC
1 6	4 66	2 84	2 80

According to the factor I items, the lower the social level the less favorably involvement with peers was viewed; within levels Negroes were less favorable than whites. A one-way analysis of variance of the means for the six items is significant at the .001 level. Of the fifteen possible intercomparisons of these six means, nine are significant.[39]

Factor II is defined by items 7-12. It was our tentative expectation that some of these items would show gradients similar to that of item 6. This did not occur. In fact, all Negro samples and the WG sample agreed significantly more with items 8 and 10—both expressing dependence upon friends—than did the WMC. Moreover, the general level of agreement by lower-strata samples with items 7-12 tends to be fairly high. A total score based upon these six items produces the following means for each group:

Items	NG	NLC	NMC
7-12	6 63	6 59	6 21

Items	WG	WLC	WMC
7-12	6 43	6 86	5 37

A one-way analysis of variance of these scores is not significant. Their trend, however, suggests that lower-strata boys endorse friendship more highly than middle-class boys, thus seeming to contradict the first set of items.[40]

Considering the make-do nature of the items, and the lack of refinement in the hypothesis at this stage, this inconsistency does not strike us as serious. Quite the contrary, in fact, for among our earliest thoughts was the expectation that although they were dissatisfied with the quality of their social relations, lower-strata boys might also be hungrier for this kind of gratification. Thus, the possibility of there being a true inconsistency or ambivalence in their attitudes is entirely plausible.

Furthermore, it has often proved difficult to create true reversals of items keyed for agreement.[41] There is a suggestion in the wording of the items that numbers 7-12 evoke responses in terms of abstract, ideal friends—so that they are true "in principle"—whereas numbers 1-6 produce responses based on actual friends. These are precisely the levels on which the respective components of ambivalence would be manifested. The fact that the items load on two orthogonal factors rather than on opposite ends of the same factor is consistent with the interpretation that they are not opposite in meaning.

Whatever the case, it remains true that the score for items 1-6 produces an unmistakable and already familiar pattern and that the import of at least four of these items (1, 4, 5, and 6) is quite explicitly negativistic concerning peer relations. This important fact is threatened only by evidence that the differences be-

[39] For details, see Table D (n. 5).

[40] We omit discussion of items 13-15 because they failed to load on any common factor. They are presented in Table 2, however, in order to indicate kinds of items that prove irrelevant and thus to help identify the limits of relevance.

[41] On reversing items, see Richard Christie, Joan Havel, and Bernard Seidenberg, "Is the *F* Scale Irreversible?" *Journal of Abnormal and Social Psychology*, LVI, No. 2 (1958), 143-59; and Leonard G. Rorer, "The Great Response-Style Myth," *Psychological Bulletin*, LXIII, No. 3 (1965), 129-56.

tween factors and between the samples are totally unrelated to item content. Since factor I contains mainly items keyed for agreement and factor II contains items keyed for disagreement, the troublesome possibility arises that the differences result entirely from acquiescent response style rather than from subtle differences in item meaning between the two factors and differences in attitude between the samples.[42]

This competing interpretation was checked by analysis of covariance, controlling for acquiescence. As a measure of acquiescence, we employed each boy's total number of "agree" responses to the entire sixty items of the instrument from which the peer relations items were drawn. It is just as impossible to be certain that acquiescence measures are free of content variance as vice versa, and to the extent our acquiescence measure is not pure it probably represents an overcorrection. In any event, since the instrument in question contained equal numbers of items concerned with each of five different content areas, and within each area half of the items were keyed for "agree" and half for "disagree," our acquiescence measure meets the usual specifications for such a score quite satisfactorily.[43]

The means for items 1–6 continued to be significantly different ($p < .001$) using either just the number of agree responses or both the agree and disagree responses together as covariates. The adjusted means are as follows:

Covariates	NG	NLC	NMC
Agree only. .	5.76	4.83	3.97
Agree and disagree. .	5 58	4 79	4 23
	WG	WLC	WMC
Agree only .	4.60	2 80	3.28
Agree and disagree .	4 70	3 05	3.64

In the case of both corrections, nine of the fifteen possible intercomparisons between the six means are significant.[44] The corrections produce only the minor disturbance of an interchange between the adjacent social levels WLC and WMC. The differences between these two interchanged levels are not significant. Thus, the negativistic component in the appraisal of peer relations among lower-strata boys does not appear to be explainable in terms of response style.

When corrected for acquiescence, the summary scores for items 7–12 reached significance only when both covariates were used ($p < .01$). The resulting corrected means then *reversed* their order to become consistent with our general hypothesis.

[42] Rorer's paper, *op. cit.* (n. 41), as the title indicates, argues not only that concern over acquiescent response style has been greatly exaggerated but that there is even doubt as to whether the phenomenon has been truly demonstrated. Of course, our item 6 is not vulnerable to this criticism, nor are the semantic differential data. Rorer's is the most important in a recent series of counterattacks against the much-overworked criticisms based on response style. For essentially similar arguments concerning "social desirability," see Alfred B. Heilbrun, Jr., "Social-Learning Theory, Social Desirability, and the MMPI," *Psychological Bulletin,* LXI, No. 5 (1964), 377–87. An important methodological critique of studies of both of these response styles appears in Auke Tellegen, "Direction of Measurement: A Source of Misinterpretation," *Psychological Bulletin,* LXIII, No. 4 (1965), 233–43. For a reply to Rorer, see Edward A. Rundquist, "Item and Response Characteristics in Attitude and Personality Measurement: A Reaction to L. G. Rorer's 'The Great Response-Style Myth,'" *Psychological Bulletin,* LXVI, No. 3 (1966), 166–77.

[43] If Rorer is correct that such acquiescence scores actually reflect content because of our inability to create truly adequate reversed items, our correction is both unnecessary and inappropriate However, employing it is the conservative thing to do Since the peer relations items are included in the acquiescence score, there is also a slight confounding which makes the correction somewhat more conservative still for items 1–6, but somewhat unconservative for items 7–12. That is, both cases are slightly overcorrective, but in the former this works against our hypothesis and in the latter it favors it.

[44] For details, see Table E (n. 5).

Gang boys now agree with statements endorsing friendship less than non-gang boys. The corrected means for items 7–12 are as follows:

Covariates	NG	NLC	NMC
Agree and disagree..	5.97	6.50	7.19
	WG	WLC	WMC
Agree and disagree..	6.58	7.41	7.23

Four of the fifteen possible comparisons between these means are significant.[45] Thus, the correction for response style leaves the previously observed effect in items 1–6 unchanged and produces it in items 7–12. Those who would explain these results solely in terms of response style will have trouble accounting for this.

At least one other study has noted an independence between positive and negative affective components that is similar to that shown by our two factors and their item scores and has deemed it worthwhile to pay it serious attention. In that study, both components were found to contribute to the prediction of happiness despite the lack of correlation between them.[46] It is precisely because our own data may reflect the same fundamental phenomenon that we place such importance on these methodological details. Failure to take this possibility into account in constructing measures could conceivably obscure the results of future research into the quality of primary group relations in different strata.[47]

[45] For details, see Table F (n. 5).

[46] Bradburn and Caplovitz, *op. cit.* (n. 21), pp. 15–24.

[47] The Kuder-Richardson reliability of the score for items 1–6 is .54. The first-order partial correlations of that score with SES (see n. 3), partialing out first the agree correction and then one based on the number of agrees minus disagrees are —.30 and —.21, respectively. Both are significant at the .0001 level. This approach enables us to take account of possible unreliability of the control variable, the effects of which are described in Daniel Kahneman, "Control of Spurious Association and the Reliability of the Controlled Variable," *Psychological Bulletin*, LXIV, No. 5 (1965), 326–29. The above partials reflect the conservative assumption that reliability of the control variable, based on ten times as many items as the score for factor I items, is only .70. If we make the additional conservative assumption of perfect reliability for the SES variable (so that it does not contribute to the correction), the correction for attenuation of the score for items 1–6, whose reliability is .54, yields values of —.41 and —.29 for the two partials, respectively.

It should also be emphasized, perhaps, that the argument relating social disability to social level and to gang interaction has to do with relative rather than absolute levels of satisfaction. Hence, it does not imply that gang activity is never enjoyed by members, that they cannot ever establish close friendships, or even that they are not better adapted, in some ways, to their milieu than would be a middle-class boy. Quite the contrary, as we shall attempt to show in the next section, the argument may lead to new insights as to exactly what it is about gang life that *is* gratifying to the participants, given that motivation is often somewhat paradoxical and not easily apparent in surface behavior.

THEORETICAL ELABORATION—THE LATENT FUNCTIONS OF GANG ACTIVITY

Two types of rewards which stem from group membership have been distinguished by Allport: the rewards shared by members as a result of their common instrumental efforts or in-course rewards, and rewards consisting of assurances that the group will continue its operation and that one's continued participation is acceptable.[48] Homans has presented a strong case for the proposition that group interaction brought about

[48] Floyd H. Allport, "A Structuronomic Conception of Behavior: Individual and Collective. I. Structural Theory and the Master Problem of Social Psychology," *Journal of Abnormal and Social Psychology*, LXIV, No. 1 (1962), 1–30.

by the demands of an external environment for solutions to instrumental problems promotes positive sentiments between members.[49] From these statements it would follow that if a group lacked a task, purpose, or mission as a result of not being integrated into a demanding external system—as may in fact be the case for street-corner gangs with respect to conventional society—then it would fail to generate a major part of the rewards and sentiments that its members might expect to gain from it. (If not being integrated into an external system—either as a component part of the larger society meeting social demands or as a group against nature meeting biological demands—constitutes a form of structural anomie for a group, and the resulting atrophy of group functions produces psychological anomie among the members, then it is to be expected that the two forms of anomie would often coincide. This way of looking at anomie may clarify some of the cases in which there is confusion as to whether it is a property of individuals or of the social structure.[50]

One solution would be to adopt or contrive tasks that justify dependence between members and call for co-operation in a common enterprise. Criminal ventures (which for this purpose need not be purely utilitarian), gang warfare, and the search for the "fix" and "kicks" would be means within the organizational capabilities of gang members of providing such shared and demanding problems.[51] Still another solution, not mutually exclusive with the first, would be to compensate for the absence of normal in-course rewards by emphasizing assurance rewards such as style of dress, nicknames, sharing, permissiveness toward acting-out, body-punching privileges, and so on. None of these, of course, really compensates for the lack of genuine warmth and care from others which presumably makes the whole problem of reward so crucial for gang boys. Nevertheless, it would appear that the power of delinquent tasks to energize bonds between gang members would be especially attractive to boys who miss warm ties with others, who lack the resources to stimulate them by example,[52] and who have misgivings about the quality of response to be expected from others under ordinary circumstances. The normal exigencies of such activities may be relied upon to drive members closer together without their exposing themselves to such accusations and anxieties as might

[49] George C. Homans, *The Human Group* (New York: Harcourt, Brace & Co, 1950), p. 151 esp. A recent review of empirical studies shows perception of progress toward group goals to be one of the main factors conducive to member satisfaction in small groups; see Richard Heslin and Dexter Dunphy, "Three Dimensions of Member Satisfaction in Small Groups," *Human Relations*, XVII, No. 2 (1964), 99–112.

[50] On this point, see Robert K. Merton, *Social Theory and Social Structure* (Glencoe, Ill: Free Press, 1957), pp. 161–62. In military organizations, it is generally accepted that morale suffers when units are not kept busy and discipline is lax, i e., when demands for solutions to instrumental problems are not forthcoming.)

[51] The present focus is on gang delinquency. However, the applicability of these considerations to other forms of delinquency is suggested by the fact that in seven studies the percentage of companionship in commission of delinquencies averaged 78 per cent; see C. M. Louttit, *Clinical Psychology* (rev. ed.; New York: Harper & Bros, 1947), p. 409.

[52] For relevant findings concerning the relation between both adjustment and intelligence, on the one hand, and performance in small groups, on the other, see Richard D. Mann, "A Review of the Relationships Between Personality and Performance in Small Groups," *Psychological Bulletin*, LVI, No. 4 (1959), 241–70, esp. 265. Adjustment, for example, is positively related to number of task contributions and positive social-emotional activity and negatively related to negative social-emotional activity. It has also been reported that groups composed of persons scoring in the more pathological direction on the MMPI, unlike control groups, fail to avail themselves of an opportunity to communicate in order to establish co-operative strategies in a Prisoner's Dilemma game For this interesting result, see V. Edwin Bixenstine and Joan Douglas, "Effect of Psychopathology on Group Consensus and Cooperative Choice in a Six-Person Game," *Journal of Personality and Social Psychology*, V, No. 1 (1967), 32–37.

be triggered by openly dependent behavior in the absence of some compelling external event.

This is not to say that the original selection of an illegal task for this purpose is therefore necessarily deliberate. There is sufficient satisfaction inherent in easy material gain, sexual behavior, and aggressive exploits to account for the casual discovery that these activities have a universality of appeal that will evoke reliably the initial responsiveness in peers necessary as a nucleus around which to develop group motivation. (The very personality parameters that are assumed to cause social disability make more probable the kinds of incidents in interpersonal encounters around which a boy will typically attempt to rally his friends.) At an early age, presumably, the gang boy senses and learns that an appeal for common action based upon these more basic principles arouses an interested response in his peers sooner than one based on the deferred gratifications of more socially acceptable behavior. If the task serves some expressive function, such as rebellion against authority, so much the better. But the main attraction of such activities lies not in the fact that they are illegal;[53] rather, it is necessary for society to make them illegal, in view of their social consequences, precisely because they are so attractive. If they were not illegal, gang boys would do them anyway. In view of these considerations, if it is true that budding delinquents react with hostility toward the good boy who declines to join in an escapade, it may be because they feel personally rebuffed and anxious; either their seductive proposals are failing to work, or their invitation is being met hypocritically because they themselves are unacceptable as companions.

While we suggest that these social tactics may originate in the spontaneous acts of young lower-class children (about whose peer groups too little is known) and, as a result of their success, come to constitute a behavioral repertoire, there is some reason to suspect that an element approaching true calculation can enter into their later employment. Short and Strodtbeck, for example, have described a series of incidents in which gang leaders instigated delinquent episodes involving other members of the group after their own status had been somehow threatened.[54] Since the usual behavior of such high-status members tended to be moderate, the authors were inclined to view their mobilization of the group as a measure calculated to regain status by providing opportunity for the threatened leader to excel in types of behavior highly valued by the group. In this formulation, of course, they are following Homans. However, evidence that gang boys may value middle-class behavior higher even than delinquent behavior makes it necessary to account for the absence of middle-class types of activity among these reactions to threatened status. In fact, such evidence makes it necessary to account for the absence of middle-class behavior in gang life generally. In the context of status threat, Short and Strodtbeck met this problem by suggesting that the delinquent content of such responses may be governed, among other things, by the range of tasks at which the leader can excel. It is also possible, however, to view their status-threat incidents as special cases of a phenomenon common to gang members generally. Thus, it may be that the leader's reaction is governed as well by the range of tasks to which most members of the group will be attracted, and in which *they* can participate competently, because the highly-valued task at which he is excelling is that of providing group solidarity. Since it is somewhat problematic to what extent gang boys do value skilful performance in

[53] As Cohen's hypothesis, *op. cit.* (n. 35), of a reaction formation against the norms of respectable society would suggest.

[54] James F. Short, Jr., and Fred L. Strodtbeck, "The Response of Gang Leaders to Status Threats: An Observation on Group Process and Delinquent Behavior," *American Journal of Sociology*, LXVIII, No. 5 (1963), 571–79. Reprinted in Short and Strodtbeck, *op. cit.* (n. 2).

delinquent tasks[55]—aside from their requirements for courage and strength—this way of looking at these incidents has the advantage of opening up another possibility as to what exactly it is that the leader does which gains him back his status.[56]

In view of the important role we have assigned to social rewards in the life of gang boys, it might well be asked at this point whether aggression aroused by a threat to the rewarding positions they have established for themselves is not sufficient in itself to account for the delinquent content in leaders' responses to status threat. Although this expressive function ought not to be overlooked in all delinquent behavior, the fact that in the incidents as described by Short and Strodtbeck the leaders never seemed to focus an attack upon the immediate person or persons directly responsible for the threat—when they very well might have done so and when from an expressive viewpoint it probably would have been more satisfying to do so—suggests that expressiveness alone may be an insufficient explanation. Furthermore, the willingness of gang members to turn out for gang fights when they themselves were not victims of the initial provocation, despite the fact that they are very much afraid, points more to cohesion than to expressiveness as a source of motivation. According to this view, in its more organized aspects gang behavior is itself a mechanism of adjustment to the divisive tendencies inherent in the spontaneous reactions of gang boys to each other, while it is in the sphere of less organized behavior which includes such spontaneous reactions that sheer expressiveness is assumed to play a more primary role.

The absence of legal and constructive tasks in gang life may also be explainable in part by the quality of in-course rewards afforded by the kinds of positions within conventional reward systems available to lower-strata boys.[57] The level of reward in such positions may lack sufficient appeal to hold persons requiring more in return in interpersonal relations than either they themselves are able to give or the institutionalized relationships of such systems normally provide. In contrast to the bonding power and intimacy of interaction fostered by the exigencies of gang life, normal on-the-job assurance rewards must seem meager to gang boys, while in business, as in most contexts, the behavior through which gang boys customarily communicate assurance would be regarded as utterly disruptive. These conjectures are consistent with evidence that working-class persons are often more concerned on the job with the quality of informal group life and the opinion of their peers than with somewhat higher pay.[58] One hears such expressions

[55] Gordon *et al*, *op. cit.* (n. 2).

[56] This would also explain Jansyn's impression that delinquent activity tended to occur during periods when gang solidarity was low in the group he observed. See Leon Jansyn, "Solidarity and Delinquency in a Street Corner Group: A Study of the Relationship Between Changes in Specified Aspects of Group Structure and Variations in the Frequency of Delinquent Activity" (unpublished M.A. thesis, University of Chicago, 1960). A report, based apparently on the same original material, has just been published. It appears to converge more with the viewpoint of this paper than did the earlier version. See Leon R. Jansyn, Jr., "Solidarity and Delinquency in a Street Corner Group," *American Sociological Review*, XXXI, No. 5 (1966), 600–614.

[57] In addition to deficiencies in their education there is reason to believe, despite measurement ambiguities, that gang boys are less intelligent than the general population. See Kenneth I. Howard, Alan E. Hendrickson, and Desmond S Cartwright, "Psychological Assessment of Street-Corner Youth: Intelligence" (Chicago: Youth Studies Program, University of Chicago, 1962 [mimeographed]), for a discussion of the intelligence of this paper's samples. A relationship between intelligence and delinquency, holding class constant, has also been reported by Albert J. Reiss, Jr , and Albert Lewis Rhodes, "Delinquency and Social Class Structure," *American Sociological Review*, XXVI, No. 5 (1961), 729. The Gluecks, *op. cit.* (n. 26), p. 356, report the mean IQ of their five hundred delinquents as being 92, a figure equal to the highest from nine studies of delinquents cited in Louttit, *op. cit.* (n. 51), p. 405.

[58] See Fritz Roethlisberger and William John Dickson, *Management and the Worker* (Cam-

as "my mind was in the streets" and "I had to make the scene" from gang boys attempting to account for poor performance in school or, in the latter case, for quitting after a few days an unusually good job paying $2.75 an hour where the hours ranged from 3 P.M. to 11 P.M., thus interfering with peer-group participation in the evening.

Team sports, at first glance a promising solution as a basis for group solidarity, have a serious drawback—half of the participants in any game must lose. The YMCA program's adaptations to this problem help to illustrate it: in a tournament with only eight teams trophies will be awarded to *four* winning places; each team receives a small trophy for "participation"; "sportsmanship" trophies are presented to heavy losers if they do not forfeit games by not appearing. Ultimately, the responsibility for helping a team get over the sting of defeat falls upon the detached workers themselves. In addition, influential members from individual gangs (the "guns") participate in a program of "field consultants," for which they receive a small salary. Thus, at sports events, the field consultants of rival gangs know each other and feel bound together to some degree in a joint effort to keep peace. The rewards of interaction with other high-status persons in the field consultants' counsel, of the peacekeeping task, and of the small salary now counter those potentially available from joining with lower-status gang members in intergroup conflict. Without these devices, team contests would often erupt into gang warfare.

CONCLUSION

Throughout this paper, it has been assumed that the mechanisms described operate as a function of social level—the lower the social level the more peer-group relations become like those sketched for gang boys. This implies that gang populations constitute a social stratum distinguishable from and lower than non-gang members of the lower class, a point of view somewhat different from those advanced in recent theories of delinquency, which tend to view gang and non-gang boys as belonging initially to a common lower-class population that is relatively homogeneous with respect to socioeconomic and other criteria. According to Cohen[59] and Cloward and Ohlin,[60] for example, gang boys *emerge* from this parent population through the operation of processes associated with status frustration and blocked opportunity. Since the families of the gang and lower-class samples of this study are fairly similar, within race, with respect to the prestige of the main earner's occupation, the relegation of gang boys to a lower social level may prove difficult to justify in terms of the usual measures of stratification. If, however, non-occupational indexes of successful living are taken into account, a different picture may appear. Some support for this surmise is to be found in the Gluecks' data,[61] where, after matching their delinquent and non-delinquent samples for quality of neighborhood, ethnicity, and intelligence (thus controlling to a degree for father's ability), it was found that the occupational distributions of the fathers were fairly similar. This similarity did not extend, however, to the breadwinner's willingness to assume responsibility for support of the family, the dependability of the father's work habits, the usual economic conditions of the family, or the number of social agencies providing services to the family. In all of these respects, the delinquents' families made a markedly poorer showing. Whether such differences always hold and whether they are of sufficient weight to have stratifying implications consistent with the attitude gradients reported here remain to be seen. For the Gluecks' fami-

bridge, Mass.: Harvard University Press, 1939); and the discussion of these researches in Homans, *op cit.* n. 49, chap. iii.

[59] Cohen, *op. cit.* (n. 35).

[60] Cloward and Ohlin, *op. cit.* (n 10).

[61] Sheldon and Eleanor Glueck, *op. cit.* (n. 26), chaps. viii and ix.

lies, they do seem to have resulted in a drastic decrement in the "self-respect" reported for the families of delinquents.[62] Whether this variable reflects the feelings of the families about themselves or the attitudes of the raters toward them in view of their level of performance is not clear from the Gluecks' account; in either case, it would seem that social prestige is at issue.

The foregoing considerations suggest two things. One is that although status deprivation is prominent in current thinking about the causation of delinquency, it tends to be conceived of mainly in economic and occupational terms. However, non-economic and non-occupational determinants of feelings of self-worth may prove equally relevant. In particular, attention might profitably be directed toward the consequences for ego's definition of self implicit in the behavior of parents and peers.

The other suggestion is that in the multidimensional domain of social status, differentiation continues along dimensions other than those that are usually regarded as determinants of SES whenever a population becomes homogeneous with respect to the latter. Specifically, this is thought to occur at the lower bounds of the occupation and income continua, where variation in these measures is truncated for a large segment of the population by minimum subsistence requirements or standards of living.

In attempting to understand the persistent regularities in our data that gave rise to the idea of additional social levels in the lower class, we have suggested an intervening variable, called social disability.[63] This variable is held to affect adversely the rewards of interpersonal relations and to be inversely related to social level. As conceived, the components of social disability are abstractions derived from previously recognized psychological states, some of which at least would be regarded by competent persons as pathological. While it is readily apparent that such pathological states are themselves capable of causing behavior that is hostile, aggressive, and delinquent, we suggest that in populations where such morbidity is prevalent a secondary process may occur which is an adaptive response to this first primary fact of individual pathology, and that it in turn may give rise to delinquent behavior more properly assignable to the group level of analysis. Such a secondary process may be capable of involving in serious delinquency boys who suffer from milder degrees of social disability, but in whom severe pathology seems absent. This conceivably could account for the lack thus far of any definitely established relationship between the severity of a boy's personality disturbance and the seriousness of the delinquent acts in which he engages.

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[62] *Ibid.*, p. 109.

[63] We are indebted for this conception to the idea of "interpersonal competence" put forth by Nelson N. Foote and Leonard S. Cottrell, Jr. See their *Identity and Interpersonal Competence* (Chicago: University of Chicago Press, 1955).

Gangs, Networks, and Subcultural Delinquency[1]

Paul Lerman

ABSTRACT

Major theorists have tended to equate peer-based delinquency and gang delinquency. Acceptance of this assumption hinders theoretical and empirical understanding of deviant youth cultures. Subcultural delinquency involves shared symbols—such as deviant values and speech—as well as behavior that is potentially noticeable by officials. Through the utilization of separate measures of shared symbolic deviance and interaction patterns, evidence is presented to support the contention that the cultural and social boundaries of a deviant youth culture have distinct referents and that the social unit of a subculture is most accurately described as a network of pairs, triads, groups with names, and groups without names.

Since the ground-breaking studies of Shaw and McKay,[2] and particularly since the publication of Cohen's *Delinquent Boys*,[3] many American sociologists have insisted that a significant manifestation of masculine youthful misconduct is the "tradition," "way of life," or "subculture" of deviant peer groups and that the most serious forms of officially known male juvenile delinquency can be described as distinctively subcultural phenomena. The usual method of describing and "proving" the existence of a distinct way of life among delinquents has been by means of case studies of street gangs. Cohen,[4] Miller,[5] and Cloward and Ohlin,[6] for example, offer as their supporting data anecdotes, participant-observation reports, impressions of gang workers, journalistic writings, and excerpts from interviews with gang members.

These and other theorists have tended to assume that peer-based delinquency is predominantly gang delinquency. It is the contention of this paper—supported by empirical evidence—that this assumption hinders our understanding of deviant youth subcultures.

The concept "subculture" refers to shared symbols, not to a specific type of interaction pattern. From the point of view of this paper, a delinquent subculture can be said to exist if a relationship is found between shared symbols (deviant values and deviant speech, or argot) and behavior that is potentially noticeable by officials. The social context of this shared deviance can be quite varied and should be addressed empirically and theoretically.

In the following pages, we shall first consider the tendency to view the gang as the sole subcultural unit, drawing on published studies for support of our position that the gang has been overemphasized. The second half of the paper empirically examines vari-

[1] Adapted from Paul Lerman, "Issues in Subcultural Delinquency" (unpublished doctoral dissertation, Columbia University, 1966). The study was conducted under the auspices of the Columbia University School of Social Work, Mobilization for Youth Research Project, Dr. Richard A. Cloward, project director. It was funded by the National Institute of Mental Health (Contract MH-01178-01). A special grant by the Ford Foundation made my participation in the construction of the survey instrument possible.

[2] Clifford R. Shaw and Henry D. McKay, *Juvenile Delinquency and Urban Areas* (Chicago: University of Chicago Press, 1942).

[3] Albert K. Cohen, *Delinquent Boys* (Glencoe, Ill.: Free Press, 1955).

[4] *Ibid.*

[5] Walter B. Miller, "Lower-Class Culture as a Generating Milieu of Gang Delinquency," *Journal of Social Issues*, XIV (Summer, 1958), 5-9.

[6] Richard A. Cloward and Lloyd E. Ohlin, *Delinquency and Opportunity* (Glencoe, Ill.: Free Press, 1960).

ous interaction patterns as they are related to deviant indicators.

The findings reported are based on information derived from a survey of youth residing in randomly selected household units of a portion of New York City's Lower East Side.[7] The original target group consisted of 706 boys and girls aged ten to nineteen years; interviews were completed with 555 youth, a rate of 79 per cent. Processing of the entire sample through the official police files disclosed that interviewed boys, even with age controlled, were as likely to be "delinquent" as their non-cooperative peers.

VIEWING THE GANG AS THE SOLE SUBCULTURAL UNIT

As long as sociologists were interested in mapping the social distribution of rates of delinquency, the problem of defining the social boundaries of a juvenile "tradition" of deviant conduct was easily handled by utilizing ecological units of a city.[8] The boundaries of a deviant "way of life" were regarded as coterminous with those of geographical areas high in delinquency, and "inner" or "interstitial" areas were compared to "outer" areas. The social patterns of interaction were further inferred from Shaw's findings that 81 per cent of the youthful offenders brought to the Juvenile Court of Chicago were likely to commit officially proscribed acts with one or more persons rather than alone.[9] Since the phenomenon of gangs was in evidence then as it is now, it was inferred from the social character of juvenile misconduct that offenders were likely to be members of gangs. Thus many sociologists tended to conceive of the subcultural boundaries as synonymous with gang membership, and studies of gangs within "inner" zones of the city became increasingly prominent. Thrasher's classic work[10] epitomizes this gang-study tradition.

Both Cohen and Cloward-Ohlin cite Shaw's early findings on offenders' tendencies to be deviant with peers as the major evidence for regarding gangs as the appropriate unit of concern. However, there are no reports in the literature of studies demonstrating that peer-oriented offenders known to the police are predominately members of gangs. A study by Wattenberg and Balistrieri, using the four-member group as a definition of "gang," found that only 47 per cent of a male youth population "interviewed on complaint" by the police of Detroit could be clearly classified as gang members.[11] There is, then, a lack of explicit empirical evidence to support the assumption that gang boundaries of membership tend to coincide with the boundaries of symbolic participation in a delinquent subculture.

Perhaps the reason that the literature has not consistently distinguished between subcultural and interactional dimensions lies in the nature of the samples used. In the main, the samples have not been drawn from a cross-section of a lower-class community but have consisted of segments from rather special populations: cases known on complaint to the police; adjudicated delinquents; institutionalized boys; or groups of concern to social agencies and demonstration projects. In a sense, these

[7] For further details about the sample and a copy of the questionnaire used, see *A Proposal for the Prevention and Control of Delinquency by Expanding Opportunities* (New York: Mobilization for Youth, Inc., December 9, 1961), Appendixes R4 and R5.

[8] See the brief review of early European and American studies in Shaw and McKay, *op. cit.*, pp. 1–14.

[9] Clifford R. Shaw, "Juvenile Delinquency—a Case History," *Bulletin of the State University of Iowa*, No. 24, N.S. No. 701 (1933), pp. 1–3.

[10] Frederick M. Thrasher, *The Gang* (Chicago: University of Chicago Press, 1927). A modern example of this tradition can be found in James F. Short, Jr., and Fred L. Strodtbeck, *Group Process and Gang Delinquency* (Chicago: University of Chicago Press, 1965).

[11] William W. Wattenberg and James J. Balistrieri, "Gang Membership and Juvenile Misconduct," *American Sociological Review*, XV (December, 1950), 744–52.

descriptions of the subculture may be based on a sampling artifact that yields a disproportionate number of "gang" members.

Although more appropriate sampling designs can help us to avoid factual error, we also need to evolve a theoretical framework that permits us to deal with the variety of collective forms that have already been noted in the literature. Even the writings that tend to reify the gang exhibit an awareness of "amorphous coalitions of cliques,"[12] of groups with loose "ties" and limited cohesion,[13] and of the existence of disagreements among gang participants regarding who is and who is not a member.[14] The failure of gangs to conform to a preconception of "group" has been noted particularly by Scott and by Richards.[15]

Yablonsky has used the term "near-group" to deal with the findings that emerged from his study of thirty New York City gangs.[16] Whether or not we accept his term, it is evident that it is an attempt to delineate the loose associational form that others have noted. As characteristics of the "near-groups" engaging in conflict activities, Yablonsky lists the following: diffuse role definitions, limited cohesion, impermanence, minimal consensus on norms, shifting membership, disturbed leadership, and limited definitions of membership expectations. Because of their failure to appreciate these factors, he claims, gang workers enter the field with certain distortions, namely, that the gang has a measurable number of members, that the role of member is specified, that there is a consensus of understood gang norms among gang members, and that gang leadership is clear and entails a flow of authority and direction of action.

Yablonsky's finding that gangs do not always match preconceived stereotypes is valuable. He errs, however, in assuming that loose associational forms are in some way pathological and that "normal" associational forms of adolescents have to be modeled after a classical group.

As a matter of fact, both adolescents and adults have many acceptable phrases that are used in everyday speech to describe loose associational types: for example, the "horsey set," the "jet set," the "bowling crowd," the "beatniks." All these associational forms seem to share fluidity of membership, ill-defined roles, limited cohesion, and other characteristics noted by Yablonsky. However, these forms need not become fully organized or contain "disturbed" leadership personnel.

The observation that a loose associational form lacks classic group attributes should not blind us to the social and cultural regularities that *can* be found:

1. The participants share a common set of values and activities—but enactments can be performed individually *or* in groupings, as long as there is an appreciative audience.

2. There are implicit or explicit criteria for evaluating whether the values are expressed appropriately or inappropriately and the activities carried out well, indifferently, or badly.

3. Participants can gain favorable evaluations for performing the activities well or for giving effective verbal expression to the shared values.

4. The activities are often accompanied by stylistic embellishments that enable those "in the know" to determine whether participants are "square" or "hip." Argot is one means of accomplishing this end.

5. Many of the participants are in effec-

[12] Albert K. Cohen and James F. Short, Jr., "Research in Delinquent Subcultures," *Journal of Social Issues*, XVI (Summer, 1958), 25.

[13] Cloward and Ohlin, *op. cit.*, p. 179.

[14] Irving Spergel, *Racketville, Slumtown, Haulburg* (Chicago: University of Chicago Press, 1964), pp. 66-68.

[15] Peter Scott, "Gangs and Delinquent Groups in London," *British Journal of Delinquency*, VII (July, 1956), 8-21; Catherine V. Richards, *Breaking through Barriers* (Chicago: Welfare Council of Metropolitan Chicago, 1959).

[16] Lewis Yablonsky, "The Delinquent Gang as a Near-Group," *Social Problems*, VII (Fall, 1959), 108-17.

tive interaction with others in the collectivity, and there exists some communication structure by means of which participants can be "clued in." Argot is also useful in carrying out this purpose.

6. There may be influentials and style setters who are acknowledged as such.

7. Cliques can be recognized, but the total association population is less identifiable, and the membership boundaries are vague.

It is clear that this phenomenon can be described according to two distinct analytic dimensions: cultural and social. The cultural dimension refers to the shared symbols (i.e., values and argot) and the behavior consonant with these symbols. The social dimension refers to the patterns of interaction that distinguish participants from non-participants. Differentiation of youth who share consonant symbols from youth who do not share these symbols demarcates the *subcultural boundaries*. Differentiation of interacting participants from non-participants demarcates the *social boundaries*. The two are not synonymous, since the referents can be adequately distinguished. However, they are related, since actors need symbols for purposes of interaction, and symbols cannot be shared except in an interaction context. But symbols can be shared in a variety of interaction contexts, and a prior assumption concerning the associational form necessary for the symbol sharing is unwarranted and open to empirical doubt.

Where membership boundaries are vague but interaction regularities can be identified, the concept of "network" may be found useful. Bott notes, in her discussion of "open" and "closed" family networks, that this concept has been used in studies of personal influence, voting behavior, interpersonal relations, and kinship systems.[17] Utilization of this broader concept does *not* preclude the possibility that groups are one of the types of social unit comprising a network. However, it permits us to recognize that pairs and triads are also units in a network.

The observation that pairs and triads are important collectivities used by youth would not be surprising to Thrasher. Present-day theorists, stressing the prescriptive requirements of gang membership, might ponder his conclusion that

> The two- and three-boy relationship is often much more important to the individual boy than his relationship to the gang. In such cases a boy would doubtless forego the gang before he would give up his special pal or pair of pals. . . .[18]

INTERACTION PATTERNS AMONG PEERS

Our empirical analysis of the interaction patterns of urban slum youth will rely solely on the actor's point of view. This approach, although not the only possible way of studying peer associations in a slum area, provides a necessary corrective to the prevalent tendency to single out gangs for attention to the exclusion of other possible types of social unit. Gathering responses for a random population in an extensive geographical area can provide the data necessary for a comparison of subcultural participants and more conforming youth. By treating "interaction" and "subculture" as separate variables, we not only can further delinquency research but can study associational patterns of youth for their own intrinsic interest.

To elicit information concerning their interaction patterns, survey respondents were asked: (1) what type of social unit (a regular group, one or two others, or "myself") they "usually go around with"; (2) whether their regular social unit, if any, had a name; and (3) how much of their leisure time (all, most, or some) was spent with friends. (Youth who reported themselves as "loners" were not asked this question.)

[17] Elizabeth Bott, "Norms and Ideology: The Normal Family," in Norman W. Bell and Ezra F. Vogel (eds.), *The Family* (Glencoe, Ill.: Free Press, 1960), pp. 435–52.

[18] Thrasher, *op. cit.*, p. 322.

DEVELOPMENTAL ASPECTS OF PEER INTERACTION PATTERNS

The actors' perceptions of the type of social unit they were part of are presented in Table 1, for four age groupings of boys.

Until the age of fourteen or fifteen, the dominant pattern appears to be the pair or triad; a regular group is second, and a small minority (11–12 per cent) perceive themselves as "loners." At age fourteen to fifteen, there is a shift in the direction of associating with a regular group; this pattern slightly surpasses the pair and triad in popularity. At age sixteen to nineteen, there is a movement away from the regular-group pattern toward the unit of the "loner"; the pair and triad types, however, are still dominant.

TABLE 1

RESPONSES TO "WHO DO YOU USUALLY GO AROUND WITH?" BY AGE ($N=276$)

Usual Interaction Pattern	Age			
	10–11	12–13	14–15	16 19
Self*	12%	12%	11%	24%
One or two others	57	56	42	46
Regular group	31	32	47	30
N	67	84	62	63

* Includes 4 DK (don't know) and NA (no answer) boys

TABLE 2

PERCENTAGE OF BOYS WHO RESPONDED THAT THEIR SOCIAL UNIT HAD A NAME, BY AGE ($N=276$)

Age		Group Has Name
10 11	$N = 67$	1%
12–13	$N = 84$	5%
14–15	$N = 62$	8%
16–19	$N = 63$	10%

Data pertaining to the types of social units are only one indication of associational patterns. Another measure is the likelihood that the social unit possesses a public name. The information depicted in Table 2 indicates that the groups are almost as nameless as the pairs and trios that are the favored type of associational pattern.

Although there are some age differences, the significant finding is the low percentage of groups with a name at all age ranges. It is unlikely that reluctance to identify the group name, if it exists, could account wholly for this finding.

Table 3, which shows the reported frequency of interaction with friends, supports the previous findings that the oldest age group tends to move away from collective interaction with peers.

TABLE 3

FREQUENCY OF INTERACTION WITH PEERS BY AGE ($N=232$)*

Amount of Leisure Time Usually Spent with Friends	Age			
	10–11	12–13	14–15	16–19
All	22%	8%	9%	6%
Most	33	43	47	34
Some	45	49	43	60
N	58	74	53	47

* Excludes 40 "self" boys and 4 DK and NA boys.

In general, the three measures of interaction suggest that the associational patterns usually projected for youth in slum areas are in need of revision. Except for boys aged fourteen to fifteen, the pair or triad is the favored associational form, and at age fourteen to fifteen this pattern competes on an equal basis with the regular-group form. Group names are not common as perceived and reported by youth. To further undermine the ideal image, the percentage of youth reporting that they spend "all" their leisure time with peers is quite small, except at the girl-avoiding age of ten to eleven.

These findings do not mean that boys refrain from association with others. However, not all their time is taken up with regular peer life. That a sizable proportion spend "some" or "most" of their time with friends certainly indicates the ready availability of an interaction context for shared symbols.

TABLE 4

RELATIONSHIP OF INTERACTION PATTERNS AND COMBINED ARGOT INDEX, 14- TO 19-YEAR-OLD BOYS ($N = 124$)

COMBINED ARGOT INDEX*	USUAL INTERACTION PATTERN: Regular Group: Name	USUAL INTERACTION PATTERN: Regular Group: No Name	USUAL INTERACTION PATTERN: Pair or Triad	USUAL INTERACTION PATTERN: Self
$\bar{B}$-$\bar{D}$	18%	36%	42%	77%
B or D	18	28	23	5
BD	64	36	35	18
N	11	36	55	22

* $\bar{B}$-$\bar{D}$ means knows *neither* bopping nor drug words; B or D means knows at least one bopping *or* one drug word; BD means knows at least one bopping *and* one drug word.

INTERACTION PATTERNS AND THE ACQUISITION OF ARGOT

Once interaction variables have been analytically distinguished from symbolic variables and measured separately, it becomes possible to explore the interaction contexts that facilitate the acquisition of shared symbols.

In the study reported here, shared deviant symbols refer to values (e.g., admiration of toughness and the ability to keep one's mouth shut to the cops, enjoying kicks) and language (i.e., argot). Boys who ranked high in shared deviant values and in knowledge of the argot peculiar to various illegal activities were found to be highest in the number, frequency, and variety of self-reported deviant acts, as well as in the likelihood of being recorded in police files or admitting to being "stopped" by the police. A combined index of "bopping" and drug argot knowledge[19] was found to be especially effective in discriminating boys who were high in these measures of behavioral deviance, as well as boys ranking high in shared deviant values. In Tables 4, 5, and 6, this index is used alone to highlight the usefulness of distinguishing between symbolic and interaction variables. In the remaining tables, we use a subcultural typology to refer to high knowledge of argot *and* high ranking in shared deviant values to broaden our exposition of the idea that subcultural delinquency refers to shared symbolic as well as behavioral deviance.

Two interaction conditions will be explored in relation to the index of bop-drug argot knowledge: (1) a group, with and without a name, versus a pair or triad versus self; and (2) degrees of frequency of interaction with peers. Although only a small percentage of boys reported that their group had a name, it is instructive to classify youth by this variable so as to approximate the interaction pattern that has been studied most extensively (i.e., gangs), while comparing it to other types that have been found to exist. We concentrate on fourteen- to nineteen-year-olds because this is the age when boys are most likely to know argot.

Table 4 clearly indicates that association with a regular group that has a name is the condition likely to yield the greatest knowledge of argot. If the group does not have a name, however, the argot-knowledge profile of participants is quite similar to that for participants in pairs or triads.

[19] The final index of argot knowledge was obtained after analyzing responses to a list of twenty argot words used in the interview. The word list contained five words for each of the following referents: organized rackets, unorganized crimes, interpersonal aggression (bopping), and drug activities. Only the interrelated indexes of bopping and drug argot knowledge fulfilled the minimal subcultural test, that there exists a strong relationship between shared values and language. For a fuller discussion and a historical review of empirical studies of argot, see Lerman, *op. cit.* (n. 1 above).

Since these two interaction classifications include the largest number of boys, the findings are of some relevance. Apparently, boys who associate with others in any form are superior to "loners" in their knowledge of combined argot.

Table 5 presents the relationship between the amount of time usually spent with peers and the combined bop-drug index for two age-ranges.

At both ages the boys who interact all or most of the time with friends have only a slight advantage in argot knowledge: at age fourteen to fifteen, the *BD* category yields a difference of only 10 per cent, and at age sixteen to nineteen, the difference is virtually negligible. Evidently, frequency of interaction as measured by peer reports is less salient as a facilitating condition for knowledge of argot than the mere fact of association with others.

TABLE 5

RELATIONSHIP OF FREQUENCY OF INTERACTION WITH PEERS AND COMBINED ARGOT INDEX BY AGE ($N=100$)

Combined Argot Index	Age and Frequency of Interaction			
	14–15 years		16–19 years	
	All or Most	Some	All or Most	Some
$\bar{B}$-$\bar{D}$	50%	43%	21%	32%
B or *D*	23	39	21	11
BD	27	17	58	57
N	30	23	19	28

INTERACTION PATTERNS AS SOCIAL BOUNDARIES

We use measures of interaction as independent variables not only because this enables us to investigate the facilitating effects of various interaction conditions but also because high rates of peer interaction are reported at an early age (e.g., only 12 per cent "loners" are reported at ages ten to eleven and twelve to thirteen). However, it is also useful to answer the following question: What types of social unit are found among boys who are high on measures of shared symbols? Stated in this form, the interaction patterns are treated as dependent variables. Table 6 presents the data relevant to an exploration of this interesting issue, using knowledge of argot as the symbolic indicator.

TABLE 6

RELATIONSHIP OF COMBINED ARGOT INDEX AND INTERACTION PATTERNS ($N=276$)

Usual Interaction Pattern	Combined Argot Index		
	$\bar{B}$ $\bar{D}$	*B* or *D*	*BD*
Self	18%	7%	9%
Pair or triad	51	56	45
Regular group with no name	28	33	30
Regular group with name	3	5	16
N	177	43	56

Table 6 reveals important differences both among and within argot categories. Differences among argot categories refer to interaction patterns that are most likely to distinguish between subcultural participants and non-participants. Differences within argot categories (particularly the high one, *BD*) can refer to the degree of heterogeneity or homogeneity of the interaction patterns of boys who are likely to be subcultural participants.

Compared to boys who are ignorant of argot ($\bar{B}$-$\bar{D}$), knowledgeable boys (*BD*) are more likely to interact in a regular group with a name (16 per cent versus 3 per cent); more likely to interact in a regular group, with or without a name (46 per cent versus 31 per cent); and therefore less likely to be loners (9 per cent versus 18 per cent).

In terms of differences within the most knowledgeable argot category, it is interesting to note that the two types of collective pattern have an equal chance of being used; 46 per cent of the high-argot boys

report membership in a regular group, and 45 per cent report association with pairs or triads.[20] This result suggests that *subcultural boundaries and interaction boundaries are, in fact, distinct phenomena*. The social boundaries of youth sharing argot as deviant symbols can best be conceived, therefore, as a *network* of pairs, triads, and regular groups, with and without a name.

Recognition of these smaller social units imbedded in the interaction pattern of a network does not mean negation of the earlier findings. Membership in a group with a publicly identifiable name still constitutes a facilitating condition for the acquisition of shared symbols. However, the argot community is broader than any particular informal associational pattern used by peers. In short, subculture does not refer only to gangs but cross-cuts the social boundaries of specific groups, pairs, and triads.

TABLE 7

INTERACTION PATTERN OF DEVIANCE BY AGE ($N=276$)

Interaction Pattern of Deviance	Age			
	10–11	12–13	14–15	16–19
Self	55%	51%	61%	65%
Pair or triad	25	32	19	22
Regular group	0	6	6	6
DK, NA, or DNA*	19	11	13	6
N	67	84	62	63

* "Don't know," "no answer," or "does not apply."

INTERACTION PATTERNS WITH DEVIANT ASSOCIATES

Our contention that undue emphasis on regular groups (e.g., "gangs") hinders our understanding of peer-based delinquency is supported by another line of analysis. In addition to being questioned about their everyday, informal interaction patterns, respondents were asked whether most of the illegal acts they reported had been done alone, with one or two others, or with a regular group. The results of this measure of peer partners in delinquent acts are shown in Table 7 for four age groupings of males. Boys who reported no deviant acts were placed in the "DK, NA, or DNA" category; however, even if such boys were excluded, the results of Table 7 would be substantially as reported.

Starting at age twelve to thirteen, boys report a regular group as one type of associational context for deviant activities, but the percentage is quite small and does not increase with age. The general message conveyed by these data is that a majority of youth at all ages engage in illegal behavior alone, rather than with others. However, if youth are classified according to a combined index of argot *and* shared values (the subcultural typology referred to earlier) a quite different image emerges, as shown in Table 8.

TABLE 8

RELATIONSHIP OF SUBCULTURAL TYPOLOGY AND INTERACTION PATTERN OF DEVIANCE ($N=276$)

Interaction Pattern of Deviance	Subcultural Typology			
	Very Low	Low	Medium	High to Very High
Self	73%	59%	55%	38%
Pair or triad	14	21	29	43
Regular group	1	3	3	13
DK, NA, or DNA	11	16	13	6
N	70	91	62	53

Table 8 reveals that the high subcultural boys comprise the only category in which "lone-wolf" deviance is reported as the minor type. The favored mode of collective participation for these boys is the pair or triad. It should be noted, how-

[20] These findings fit in remarkably well with the finding reported by Wattenberg and Balistrieri, *op. cit.*, that about 47 per cent of youth known to the police on complaint were "gang" members.

ever, that high subcultural boys are also the ones most likely to use a group.

These findings lend further support to the contention of this paper and earlier studies that subcultural delinquency is a form of shared, collective deviance. However, in supporting the view that the pair or triad, not the group or gang, is the social unit most frequently used by subcultural boys in their deviance, the results of this study contradict the conclusion of earlier studies that peer-based deviance is predominantly gang delinquency.

THE INTERACTION PATTERN AND POLICE CONTACT

We have noted earlier that the subcultural typology has proved capable of distinguishing boys who are highest on indexes of behavioral deviance. A critical issue for adherents of the traditional "gang" point of view is whether interaction measures have any social relevance in the sense that they improve on the utility of indexes of shared symbolic deviance. If the level of subcultural participation is controlled, does it matter whether the actors are members of regular groups or are linked to the network via a pal or two? Table 9 indicates that membership in a deviant symbolic network is the critical variable for being noticed by the police; the type of "usual" interaction unit does not seem to affect the likelihood of having one's name in the official police files *or* of admitting to having been stopped by a policeman. Were age also controlled, the conclusion would be similar regarding this combined measure of police contact.

SUMMARY AND CONCLUSIONS

If we accept the actor's point of view as the basis for defining the social unit of peer activities, youth in urban slum areas tend to associate in pairs and triads even more than in regular groups. Although membership in a group with a name is a facilitating condition for learning argot, even the boys rated high in subcultural indicators are about evenly divided in their preference for pairs or triads versus regular groups. The data clearly support the view that "subculture" and "gang" are not synonymous.

This conclusion is also supported by analysis of patterns of interaction with deviant associates in illegal acts. Although high subcultural boys are the least likely to report "lone-wolf" activities, it is clear that only in a minority of cases is a regular group the unit for illegal activities. Not only are the everyday social units of high subcultural boys composed of diverse types of collectivities, but partners in deviance appear to be chosen on the basis of palship rather than group criteria. The social unit of a subculture, then, is most accurately described as a network of pairs, triads, groups with names, and groups without names. This perspective is quite useful in interpreting interaction patterns based on a cross-section of low-income youth, as well as in dealing with descriptive findings based on more restrictive samples.

It is important to remember that the perspective being advanced is supported by empirical data generated by survey techniques. It has been suggested that "gang"

TABLE 9

INDEX OF POLICE CONTACT* FOR BOYS, CLASSIFIED BY BOTH SUBCULTURAL INVOLVEMENT AND INTERACTION PATTERN ($N = 236$)

Usual Interaction Pattern†	Subcultural Typology: Low-Medium	Subcultural Typology: High-Very High
Pair or triad	12%	52%
N	113	27
Regular group . .	11%	59
N . .	74	22

* Boys are classified as having been in contact with the police if (1) their names were found recorded in the official files of the New York City Police Department, and/or (2) they admitted to having been stopped by the police for any of the items in the list of self-reports

† The rate of police contact for the 40 loners, who are excluded from this table, is 10%

boys are reluctant to identify themselves as regular group members when interviewed by a strange adult. This may be so. However, potential gang boys should also be reluctant to admit their knowledge of argot, reports of misconduct, the values of their friends, and contacts with the police. The fact that they respond to these indicators of deviance—and that the consistency of responses increases with age—certainly suggests that the survey method is capable of "tapping" symbolic and behavioral variables of interest to subcultural researchers. It appears unreasonable to conclude that likely subcultural participants will tell us about their varied modes of deviance but will not disclose their interaction patterns to the same degree.

Columbia University School
of Social Work

Unintended Effects of Parental Aspirations: The Case of Children's Cheating

Leonard I. Pearlin, Marian Radke Yarrow, and Harry A. Scarr

ABSTRACT

Cheating represents a large class of behavior whose acquisition is the unintended consequence of unrecognized conditions Observations were made of seventy-nine working- and middle-class boys and girls while engaged at two achievement tasks, one with their mothers and the other with their fathers. Children were most likely to cheat when their parents exerted pressure on them to succeed. Parental pressure, in turn, comes about when parents entertain high aspirations for their children coupled with limited resources. Neither high aspirations with more ample material resources nor limited resources with more modest aspirations are as apt to result in parental pressure and its consequent cheating by children. Cheating can thus be an unwitting result of striving after culturally valued goals under conditions of limited opportunity.

In this paper we consider observed cheating by children as an unintended consequence of parental aspirations. There can be, and frequently is, little apparent connection between the behavior parents would like to develop in their children and the actual behavior that is produced. In the course of striving for one effect, parents unwittingly contribute to others, either along with or in place of that which is desired. Not uncommonly, unintended effects are also unwanted. Cheating, we feel, can be employed as an excellent example of how behavior, very likely considered undesirable or even offensive by most parents, can inadvertently result from their values, characteristics, and actions.

The most significant origins of research into cheating lie in the classic work of Hartshorne and May almost four decades ago.[1] Their studies were designed to find whether dishonesty is a specific response to specific situational arousal or a characteristic mode of behavior cutting across situational contexts.[2] The question of the generality or specificity of cheating remains an implicit issue in the two major types of study that have emerged in recent years. The first type is concerned with cheating as one aspect of the moral development of young children, and the other focuses on academic cheating. Although their immediate purposes and designs are quite different, they share a prevailing interest in discovering the social conditions underlying cheating. Thus, much of the effort of the first type is directed to revealing relationships between children's cheating and maternal styles of child rearing.[3] Studies of academic dishonesty, correspondingly, are aimed at explaining cheating practices of campus

[1] Hugh Hartshorne and Mark A. May, *Studies in Deceit* (New York: Macmillan Co., 1928).

[2] Roger V. Burton, "Generality of Honesty Reconsidered," *Psychological Review,* LXX (1963), 481–99. Burton provides an excellent current statement of the issue of generality vs. specificity of cheating, and through a reanalysis of the Hartshorne and May data shows more generality than might be granted to this class of behavior from Hartshorne and May's original interpretations. He notes that Hartshorne and May themselves actually did not take the extreme position of specificity often attributed to them by textbook writers.

[3] For examples of maternal attitudes, modes of discipline, and rearing practices that have been studied in relation to cheating, see Roger V. Burton, Eleanor E. Maccoby, and Wesley Allinsmith, "Antecedents to Resistance to Temptation in Four-Year-Old Children," *Child Development,* XXXII (1961), 689–710.

groups by variations in institutional constraints and supports.[4] Essentially, they suggest that academic cheating reflects the acquisition of existing social norms.[5] Regardless of the many ways in which they can differ, contemporary research converges at a common point of view of cheating as a consequence of the learning that takes place through interpersonal interaction and social experience.

The present work is similar to the foregoing in that it, too, views cheating as a learned behavior that can represent a characteristic response to a range of situations. But in several respects it differs from previous studies. Unlike some of the campus studies, for example, we do not deal with the prevalence of cheating in collectivities. Indeed, cheating was experimentally maximized, as we shall describe later, giving a compressed picture of how it might occur under natural conditions. Furthermore, in seeking the ways cheating might be inadvertently learned, we go beyond immediate contexts to consider the broader social system.[6] Finally, we conceive of cheating as representing a more inclusive type of socialized behavior: that which is acquired less from direct intention than from social conditions. We will attempt to show how these conditions—and the linkages between them—can culminate in cheating.

METHODS

As part of a comparative study of the effects of social class on parental values in the United States and Italy, interviews were conducted with a representative sample of over eight hundred middle- and working-class parents of fifth-grade children in Turin, Italy.[7] Two-thirds of this group consisted of husband-and-wife pairs; in these cases, separate interviews were conducted with mother and father. Following completion of the interviewing, the study was extended to include observations of parent-child interaction in a subsample of seventy-nine homes in which both parents were previously interviewed. This subsample was selected to achieve a balance between working and middle class and between boys and girls. An interval of from three to eight months occurred between interviews with the parents and the parent-child observations. The present report deals only with the subsample.

Measures of the child's cheating and of parent-child interactions were derived from the subjects' behavior in coping with six problem-solving tasks, three of them with the child and his mother and three with the child and his father. The tasks were rotated in such a way as to provide an equal distribution of sex of child, sex of parent, and task combinations. Since the children were all in the fifth grade, age was not a variable. In presenting the tasks, the observer emphasized the importance of doing well. This was done by telling parent and child that their scores would be compared to those of American children and other Italian children; they were also told a fictitiously high score that children "usually" made on the

[4] Rose K. Goldsen, Morris Rosenberg, Robin M. Williams, and Edward A. Suchman, *What College Students Think* (Princeton, N.J.: D. Van Nostrand Co., 1960), pp. 74–80; and William J. Bowers, *Student Dishonesty and Its Control in College* (New York: Bureau of Applied Social Research, 1964).

[5] These studies also typically rely on students' own reports for their assessment of cheating, raising some question of validity.

[6] In this connection two recent studies merit particular attention, one by Harp and Taietz and the other by Tallman. Although each employs college-student subjects, they are less concerned with the prevalence of academic cheating than understanding it within the framework of Merton's established theory of deviant behavior. This helps to bring into focus implications of social structural conditions for cheating. John Harp and Philip Taietz, "Academic Integrity and Social Structure: A Study of Cheating Among College Students," *Social Problems*, XIII (1966), 365–73; and Irving Tallman, "Adaptation to Blocked Opportunity: An Experimental Study," *Sociometry*, XXIX (1966), 121–34.

[7] This part of the study is reported by Leonard I. Pearlin and Melvin L. Kohn, "Social Class, Occupation, and Parental Values: A Cross-National Study," *American Sociological Review*, XXXI (1966), 466–79.

particular task, and in other ways they were encouraged to extend themselves. The sessions were thus clearly structured in terms of achievement, and this is crucial to the relationships which we present later.

While parents were forbidden to perform the tasks for their children, they were free to assume their own roles within this broad limit. After the initiation of each task, the observer would withdraw to a corner of the room and quietly record a detailed, running account of the actions and interactions of parent and child. The transcriptions of the behavioral records were then coded on such dimensions as the attention and interest of parents, their expressions of praise and criticism, and their positive and negative affective qualities of interactions with their children.[8]

Of the six problem-solving tasks presented, only two figure into the assessment of cheating, both adapted from tests used by Hartshorne and May.[9] Each test is constructed in such a way that neither skill nor effort can appreciably contribute to success. One is made up of a series of printed squares with a common center. The space between the successively larger squares is less than one inch. The child is asked to pencil a line, with his eyes closed, around the perimeter of each square without touching either the sides or corners of the printed squares. The second task consists of a ring of ten circles of declining size; here the child is required to place an "X" within each circle while keeping his eyes closed. Both tests, while captivating, are very difficult, and it is most unlikely that one can have a high score without opening his eyes. Conformity to the rules results in poor performance; success depends on cheating. The nature of the tests, therefore, lends itself to our design to maximize the probability of cheating by those so disposed.

The raw scores on both "peeping" tests are simply based on the proportion of successes to attempts. It was necessary, however, to standardize these raw scores for the two tests. Standardization of scores equates performance on the two tests by using the same standard deviations from the mean for both tests, thus permitting us to ignore the particular test as a variable. Concretely, those classified as not having cheated cleared fewer than 45 per cent of the corners on the squares test or were successful in no more than 31 per cent of their attempts to place an "X" within a circle. The "possible" cheaters cleared up to 70 per cent of the square corners or were successful in 55 per cent of their attempts at the circles test. The unambiguous cheaters are those whose successes exceed these levels. It is most improbable that this could be done either without peeping or the collusive intervention of the parent—which, as will be seen, might very well have occurred.

The final issue of method that requires clarification pertains to the unit that will be taken for analysis. It will be recalled that seventy-nine families were observed. The problem this presents is that while there are 158 parents, each engaged alone with his child in an observational session, only seventy-nine children are involved. Two options can be exercised in dealing with unequal numbers of parents and children. One is to treat husband-wife pairs as a single parental unit. For many of our parents this constitutes no problem, for they are typically in agreement on those characteristics and values that seem to affect cheating. A number, however, hold different aspirations and values, thus making parental consensus an

[8] Observers were trained to observe in terms of the categories in which their observations would be coded. From two "staged" practice sessions, coefficients of reliability of observations were calculated for each of the four observers involved in the study. This was done by establishing for each observer the rank order of frequency with which each category of behavior was recorded. The rank order of each observer was correlated with those of all observers, thus yielding six correlations which ranged from .41 to .80 and having a median of .68 Coefficients were also established for coders based on agreement of assignment of recorded acts to specific categories. Here the correlations range from .72 to .91, median 81.

[9] Hartshorne and May, *op. cit* (n 1), pp 61-65

issue that would have to be accounted for were mother-father pairs employed. It would, furthermore, be necessary to compute a single cheating score for the children, combining their behavior with each parent alone. In most cases, again, this would pose no problem, for the behavior of 67 per cent of the children is the same with both parents. This still leaves one-third of the children, however, whose cheating or non-cheating is different with each of their parents; a single score would necessarily give a distorted picture of such selective behavior. Primarily for these reasons we shall deal with mother-child and father-child sessions separately. Although the same child was engaged in each session, his behavior with regard to cheating will be scored twice—once with each of his parents. In all tables presenting the cheating of children, therefore, separate tabulations are made of his behavior with his mother and with his father.

PARENTAL PRESSURE FOR SUCCESS

The conditions most immediate to the cheating observed during the course of the experimental sessions inhere in the actions of parents toward their children. Of particular relevance are actions signaling pressure for successful performance. Given the fact that success at the experimental tasks can be gained only by violating the rules, it can be anticipated that cheating would be a prominent response to such pressure. It will be shown later that parental pressure itself is influenced by social structural and social value conditions. For now, we will simply examine parental pressure in relation to children's cheating.

Among the behaviors that were recorded, three in particular enable us to assess the degree of pressure for success imposed by mothers and fathers on their children. The first of these is the frequency of highly specific "do this, now do that" directives parents gave their children. Such directions, it might be noted, bordered on violation of the instructions which emphasized that the child himself was to go through the manipulations required by the tasks. A second aspect of behavior reflecting pressure is the number of strategic suggestions parents made; these were in the form of general approaches to the tasks that they wanted their children to adopt in order to maximize their performance. Last is the extent to which parents maintained a restrained, unintrusive interest while their children were at work at the achievement tasks. This is not the same as withdrawal of interest, which was coded separately. It reflects sustained attentiveness to what the child was doing without comment or interference of any kind.

These three items of behavior form a Guttman scale. The pattern of greatest pressure is such that if a parent gave many specific directions (nine or more), he was also relatively active in making strategic suggestions (four or more) and was quietly attentive to the child's independent efforts for fewer than eight intervals of sufficient duration to be recorded. Parents fitting this pattern are given the maximum score of 3. Receiving a score of 2 are parents who did not give as many directions, but who were still active in making general suggestions and who lacked restrained attention. The score of 1 is for parents who were not active in either making suggestions or giving directions, but who showed little unobtrusive attention. Lowest are highly attentive parents making few or no suggestions and giving few or no directions.[10]

Despite its shortness, this scale is useful in ordering parents according to the extent to which they exerted on their children a focused pressure for successful performance. Indeed, at the high end of this scale are parents so eager for their children to do well and so involved in the execution of the tasks that it is not possible to distinguish children who might have cheated in actual collusion with their parents from those who cheated by themselves. Whichever it might

[10] The coefficient of reproducibility for this scale is .93; the coefficient of scalability by item is .76.

be, we can show that cheating most clearly occurs with children being pushed the hardest.

Table 1 presents the pressure exerted by mothers and fathers and the cheating behavior of their children. Whether a child works at the achievement tasks in the presence of his father or his mother, the likelihood of cheating is greatest when the pressure they experience is extreme. The magnitude of these relationships leaves no doubt of the importance of this facet of parent-child interaction as a direct lever for cheating. Parents who pressure their children might want only to teach them to achieve but they are also contributing, probably unwittingly, to the learning of other behavior that is undesirable. There are, however, social processes that antecede the exercise of pressure, and our task now is to see what underlies this push for success.

TABLE 1

PARENTAL PRESSURE FOR SUCCESS AND CHEATING BY CHILDREN

(Per Cent)

Cheating Behavior	Pressure by Fathers*				Pressure by Mothers†			
	High 3	2	1	Low 0	High 3	2	1	Low 0
Cheated	60	27	16	11	81	25	22	20
Possibly cheated . . .	20	32	25	11	6	25	19	7
Did not cheat . . .	20	41	59	78	13	50	59	73
Total per cent	100	100	100	100	100	100	100	100
N	15	22	32	9	16	20	27	15

* $\chi^2 = 14.8$, 6 d.f., $p < .02$

† $\chi^2 = 20.7$, 6 d.f., $p < .001$.

THE STRUCTURAL VANTAGE POINTS OF PARENTAL ASPIRATIONS

The levels of the aspirations that parents entertain for their children would seem to be among the most pertinent conditions behind parental pressure. Given the nature of the experimental situation with its stress on achievement, parents holding modest aspirations could more easily remain unintrusive, even while witnessing their children perform poorly at the tasks. Those with higher hopes and achievement aspirations could not be indifferent to failure and would be more inclined to ply their children with directives and urgings.

Parental achievement aspirations can be observed through two questions. One asked how far they would like to see their children go in their education, and the other asked the occupation they want to see them enter.[11] Although formal education is more abbreviated in Italy than in the United States, it is no less a major route for social and economic advancement there than it is here. Occupational status in Italy also is strikingly parallel to this country in that the standing of one's occupation is the major source of material and non-material reward, at least in the industrialized centers. Parents with high educational and occupa-

[11] While these questions are suitable to ascertain levels of aspiration, it should be recognized that they do not directly assess either the intensity of aspiration or what a given level might represent to different groups. These aspects of aspirations are dealt with, respectively, by Leonard Reissman, "Levels of Aspiration and Social Class," *American Sociological Review*, XVIII (1953), 233–42; and Ephraim Harold Mizruchi, *Success and Opportunity* (Glencoe, Ill.: Free Press, 1964).

tional aspirations for their children, therefore, are not simply expressing trivial fancies. These are goals which they are likely to want intensely, for an important part of their children's future is at stake in achievement in these areas.

Generally we find that mothers and fathers with the highest aspirations impose the greatest pressure. This association is small and somewhat uneven, however, indicating that the levels of aspirations alone do not adequately explain parental pressure. What was discovered to matter even more is the level of the goals relative to the actual status of parents. The same goals might appear to one person as easily attainable and unproblematic, and to another with fewer resources and more limited life chances as remote, elusive, fraught with difficulties. To the first, a university education might seem quite proximate to his own standing in the social order, while to the second it might appear to rest at the most distant pinnacle of success. Thus, the disparity between aspiration and status is more important to parental actions and children's cheating than either aspiration or status separately. The combination of high hope and low structural baseline is the critical condition.

This can be demonstrated by taking educational aspirations in conjunction with parental status. At the time of this study, education in Italy was organized around four major levels: elementary, extending to the fifth grade; technical or vocational; secondary; and university. Because of small numbers, the following table distinguishes only parents wanting a university education from those aspiring to a level below the university. As for the status position of parents, it can be judged either by the husband's occupational status, the parents' own educational attainments, or reported family income. We will employ the last as it gives the most direct indication of the economic resources available for the implementation of aspiration.

TABLE 2

EDUCATIONAL ASPIRATIONS FOR CHILDREN, INCOME, AND PARENTAL PRESSURE

(Per Cent)

Parental Pressure	University Aspirations*			Aspirations Below University†		
	Family Income			Family Income		
	Less than $160	$160 to $240	Over $240	Less than $160	$160 to $240	Over $240
High 3	53	21	8	19	17	...
2	20	16	19	27	50	33
1	20	42	50	42	21	47
Low—0	7	21	23	12	12	20
Total per cent	100	100	100	100	100	100
N	15	19	26	52	24	15

* $\chi^2 = 12.3$, 6 d.f., $p < .05$

† $\chi^2 = 8.5$, 6 d.f., $p < .30$

Table 2 presents desired levels of education together with income in relation to the pressure parents exerted on their children in the experimental situation. The important variations are found among those hoping for a university education but differing in their monthly incomes. Thus, 53 per cent of the parents in families earning less than $160 per month (100,000 lire)

impose extreme pressure, in contrast to 8 per cent having the same goal but earning over \$240. The disparity embodied by high hope and limited opportunity is apparently a factor underlying the importunate actions of parents.

Similar results appear when occupational aspirations are considered. In Table 3 the parents are delineated according to whether they want an upper middle-class post for their children—principally high managerial or professional occupations—or an occupation of lower status. They are then grouped by income as in Table 2. Once again, it is the parents with the highest goals and most limited resources who are likely to urge their children on to successful performance. Parents holding the same high goals but located more advantageously are considerably less disposed to bring pressure to bear. Among parents whose aspirations are lower, income makes no difference.

TABLE 3

OCCUPATIONAL ASPIRATIONS FOR CHILDREN, INCOME, AND PARENTAL PRESSURE

(Per Cent)

Parental Pressure	Upper-Middle Aspirations*			Aspirations Below Upper Middle†		
	Family Income			Family Income		
	Less than \$160	\$160 to \$240	Over \$240	Less than \$160	\$160 to \$240	Over \$240
High 3	43	24	7	21	15	(0
2	21	29	23	23	35	(1)
1	36	29	43	41	30	(3)
Low 0	0	18	27	15	20	(1)
Total per cent	100	100	100	100	100	100
N	13	17	30	48	20	5

* $\chi^2 = 11.1$, 6 d.f., $.10 > p > .05$

† $\chi^2 = 3.8$, 6 d.f., n.s., $p > .70$

Parental pressure can be shown to be a consequence of another type of disparity between goal and opportunity. Where we have been examining parental hopes for the future of their children, we consider now the desires of parents for their own advancement. Specifically, we are concerned with the occupational mobility strivings of fathers. The item by which mobility striving can be assessed most directly asks: "How important is it to you that you be advanced (promoted) in your occupation?" The replies to this question, addressed only to the fathers who are not self-employed, indicate that paternal pressure is greatest among fathers whose occupational strivings are most intense. Of the fathers to whom mobility is very important, 68 per cent score either 3 or 2 on pressure, compared to 37 per cent of fathers saying it is less important. There is, then, an association between striving in one's own occupational life and the push for achievement imposed upon children.

Typically more people strive for status enhancement than actully realize it, and this is at least equally true in Italy as in many other nations. Thus, of thirty-one fathers who say that advancement is very important, only nine have experienced any upward movement, and this is almost entirely limited to intraclass shifts from one level to another, such as from semiskilled to skilled jobs. But what of the remaining twenty-two strivers whose ambitions are completely frustrated, who have not ex-

perienced vertical movement even within class? In Table 4 we distinguish these fathers whose strivings have been frustrated from those who have had upward occupational movement and the non-strivers to whom advancement is less important.[12] The results clearly indicate that if one is both striving for status and thwarted, he is likely to treat his child's performance at achievement tasks with great urgency.

Whether a parent has the problematic hope that his child will exceed his status or if his strivings in his own behalf are unfulfilled, the results are the same. In each case the uncertainties of realizing success goals seem to propel parents to active intervention in the achievement efforts of their children.[13] The success motivations of such parents are probably even more intense than for others; if this were not so, they

TABLE 4

FRUSTRATION OF MOBILITY STRIVING AND PATERNAL PRESSURE

(Per Cent)

Paternal Pressure	Frustrated Strivers	Mobile Strivers*	Non-Strivers*
High—3.	32	11	12
2...	41	44	25
1 .	27	44	44
Low—0	0	0	19
Total per cent	100	99	100
N	22	9	32

* $\chi^2 = 7.7$, 3 d.f., $p = .05$ (combining "mobiles" and "non-strivers".

[12] This table does not include self-employed fathers for whom mobility information is not available.

[13] It appears that parental valuation of certain characteristics in their children can affect these relationships. From a list of seventeen characteristics originally devised by Kohn for his studies of parental values, our respondents were asked to select the three they felt were most important in a child the age of their own fifth-grade son or daughter. Parents giving priority to "obedience to parents" were more disposed to extreme pressure than those not stressing this characteristic. This difference is found even among those under disparate conditions. For a complete discussion of the parental values in the United States, see Melvin L. Kohn, "Social Class and Parental Values," *American Journal of Sociology*, LXIIII (January, 1959), 337–51. For a comparison of the valuation of these characteristics between the United States and Italy, see Pearlin and Kohn, *op. cit.* (n. 7).

TABLE 5

DISPARITY BETWEEN OCCUPATIONAL ASPIRATIONS AND INCOME, PARENTAL PRESSURE, AND CHEATING BY CHILDREN

(Per Cent)

CHEATING BEHAVIOR	FATHERS				MOTHERS			
	Aspirations Disparate*		Aspirations Consonant†		Aspirations Disparate‡		Aspirations Consonant§	
	High Pressure	Low Pressure	High Pressure	Low Pressure	High Pressure	Low Pressure	High Pressure	Low Pressure
Cheated	63	0	35	16	80	14	43	18
Possibly cheated ...	25	33	26	19	0	14	21	15
Did not cheat	12	67	39	65	20	72	36	67
Total per cent....	100	100	100	100	100	100	100	100
N...	8	6	23	32	10	7	14	33

* $\chi^2 = 7.2$, 2 d.f., $p < .05$.
† $\chi^2 = 4.1$, 2 d.f., $p < .20$.
‡ $\chi^2 = 12.2$, 2 d.f., $p < .01$
§ $\chi^2 = 4.2$, 2 d.f., $p < .20$

would abandon their hopes in the face of improbability of attainment. Through their actions, parents convey to children the urgent importance of success—perhaps by any means.

GOAL-RESOURCES DISPARITIES AND CHEATING

Cheating, then, appears to be an unintended consequence of a process that has important roots in culturally cherished goals. Blocked or limited access to these goals—conditions for anomie—results in extreme parental demands on children for evidence of achievement. Children, either to avoid disappointing their parents in an area of obvious importance to them or because they share with their parents a cynical view of accepted means, respond to this pressure by cheating. In this fashion, cheating can become an inadvertent companion of desired achievement behavior. To complete our empirical view of this process we shall deal with the relationship of conditions of disparity to cheating.

Since it is already known that parental pressures are related to cheating and conditions of disparity contribute to pressures, an association between disparities and cheating can be expected. Cheating, in fact, does occur disproportionately among children whose parents have limited financial resources but high hopes for education and occupation. These relationships, however, are less close than anticipated. The reason for this is that disparities, while vitally important to the process, constitute more of a precondition for parental pressure than a direct force for cheating. Stated another way, disparities result in cheating through the intervening acts of parental pressure.

The nature of the contributions to cheating made by disparity and pressure can be shown more exactly by their simultaneous examination, which is done in Table 5. To serve our present purpose we have taken occupational aspirations and have classified as "disparate" those parents aspiring to the highest level, but having a family income that is less than $240 per month. "Consonant" parents have either more modest aspirations, regardless of income, or more substantial means, regardless of aspiration. The "high pressure" category includes parents scoring 3 or 2 and the "low" category includes the remainder.

Despite the necessarily small numbers, the circumstances under which cheating is most concentrated can be clearly seen. A majority of parents holding goals disparate with their resources impose extreme pressure for achievement, and it is precisely the children of these parents who are very likely to be cheaters. Disparity without the intervention of parental pressure is substantially less associated with cheating, as is pressure without disparity. Thus, there is a marked cumulative effect on cheating when these circumstances are coupled. Cheating, therefore, is an unintended product of a process made up of a number of interconnected conditions involving culturally esteemed goals, the economic context in which they are held, and their impact on parent-child relations.

Paradoxically, then, parents who adopt the valued hope that their children will surpass their own stations in life tend to implement these aspirations in ways that can induce their children to behave in violation of other values of the society.

DISCUSSION

Much social learning is a result of conditions that can be subtle and unrecognized, but nonetheless very real in prompting and structuring behavior. Even deliberate efforts at inculcation can contribute to concomitant and unintended effects. Knowledge of socialization processes would thus be incomplete, if not distorted, were it based only on what parents can tell us about their sentiments and desires for their children. The issue here is not the validity of verbal reports; it is that parents cannot be expected to be cognizant of the conditions that mask the connections between

their intentions and their children's behavior.

Cheating, because it is likely to be both unintended and disdained, is taken to represent the large class of behavior that is learned but not taught. From our experimental examination it is not possible to resolve the generality-specificity issue. Nor is it possible to judge how quickly or prevalently cheating might be aroused in naturalistic situations offering several alternative means to success. We can assume, however, that conditions found to be relevant to cheating in the experiment are also implicated in cheating that occurs spontaneously in natural achievement situations.

There are close parallels between the conditions studied in this inquiry and those described by Merton as underlying anomie.[14] We have focused on parents with striving ambitions for culturally valued ends whose attainment is in doubt by virtue of their position in the socioeconomic structure. Rather than forsaking their hopes, such parents appear to be even more strongly motivated to see their children achieve than those in more privileged positions. Thus, even within the bounds of the experimental situation, clearly segregated from any long-range consequences for achievement, these are the parents who exhort and pressure their children to succeed despite the absence of conventionally supported means.

One of the interesting implications of this process is that conditions of anomie affect not only those directly exposed to them—parents—but that their children are also influenced indirectly by the type of interventions that their parents employ. In this manner, such conditions shape and mold the behavior of those who possibly have not yet assumed for themselves problematic cultural goals. The consequences of high hopes and low standing spill over generational lines through the socializing actions of parents.

There are a number of structural issues pertinent to cheating that we have ignored, partly because we wish to emphasize the factors we presented and partly because some of these issues lie outside the scope of our data. Parent-child sex combinations are a case in point. There are very slight tendencies for boys to cheat more than girls and for each to cheat more with mothers than fathers. While these differences by themselves are minimal, it might be that together with such structural conditions as family size and birth order they would take on a greater importance. Another structural issue involves economic class. We cannot be sure that some of our relationships are linear since lower-class parents are effectively absent from our sample. It might be argued that parents in the lowest strata, even if they entertain high aspirations for their children, are so structurally remote from these goals that they do not strive in the same fashion as those in established working-class positions. In the absence of data, any statement about this group must be speculative.

Finally, there is a question of national comparability. Can we be certain that if the same inquiry were conducted in the United States the results would be the same as for Italy? On the basis of previous cross-national comparisons, it would probably be found that the distribution of parental values and aspirations would be different for the two countries, but that their consequences for cheating under the same conditions would be similar.[15] There is reason to assume that the emphasis on success, for example, might differ, but the effects would be essentially the same under corresponding circumstances.

[14] Robert K. Merton, "Social Structure and Anomie," in *Social Theory and Social Structure* (rev. ed.; Glencoe, Ill.: Free Press, 1957), 131–60.

[15] Pearlin and Kohn, op. cit. (n. 7). In this study it was discovered that while there are distinct cultural differences in the patterning of parental values in the two countries, the effects of class on values were the same.

Children do not cheat, of course, because they—or their parents—prefer this above all other means. It is an adaptation to conflict arising from hindered access to desired goals and, as such, has an obvious and direct implication for any social action program designed to elevate the dispriv-ileged by elevating their motivation for achievement. Unless this effort is also coupled with material changes in the opportunity structure, such a program could only add to a reservoir of frustrated aspirations which eventually could lead, among other consequences, to the circumvention of normative standards of behavior.

National Institute of Mental Health
and
University of Pennsylvania[16]

[16] Harry A. Scarr was formerly at the National Institute of Mental Health.

The Criminal Patterns of Boston since 1849[1]

Theodore N. Ferdinand

ABSTRACT

This study is based upon the annual arrest reports of the Boston police from 1849 to 1951 for seven major crimes: murder, manslaughter, forcible rape, robbery, assault, burglary, and larceny.

When the rates of these crimes are examined collectively, they show a distinct downward tendency. Murder, larceny, and assault have shown a clear decline in the last one hundred years, while burglary and robbery have shown a downward tendency, although specific events have resulted in periodic upswings, bringing these crimes to new high levels in recent years. Manslaughter increased dramatically around the turn of the century but has declined recently from these initial high levels. Only forcible rape has shown a clear tendency to increase over the last one hundred years.

It is hypothesized that three types of factors have affected these crime rates. First, the attitude and policy of the police toward specific kinds of crimes is directly relevant. Second, national events like wars and economic depressions have left their imprint upon Boston's criminal patterns. Finally, structural changes accompanying urbanization—a growing middle class, a more highly urbanized population, and an evolving pattern of social organization—have all contributed to the changing pattern of serious crimes over the years.

There is a budding interest in the criminal patterns of other nations among American criminologists.[2] Different kinds of societies with different types of social organizations should, according to criminological theory, exhibit different patterns of criminality, and those who explore the criminality of other nations serve not only to broaden our knowledge of exotic forms of crime but also to confirm (or deny) our theoretical expectations regarding the relationship between social organization and crime. Both objectives, however, can be served not only by cross-cultural research but also by longitudinal studies of American communities. In tracing the criminal patterns of these communities as they assumed an urban, industrial character, it should be possible to identify the characteristic influences of a maturing urban social structure upon the criminal behavior of its population.

In the United States, many of the best sites for such studies are found in New England where urban communities and institutions began to emerge in the seventeenth century, and where the history of their development through the eighteenth and nineteenth centuries has been carefully preserved both in the form of detailed

[1] A revised version of a paper presented at the AAAS meetings in Washington, D.C., on December 27, 1966. I am deeply grateful to Mrs. Jane Ferdinand and Mrs. Dorothy Fisher for the diligence with which they sought out and recorded the data upon which this paper is based. A word of thanks is also due to Professor Hans Mattick of the University of Chicago Law School who helped me improve this essay considerably, and to Professor Abraham Goldstein of the Yale University Law School who gave me some very valuable counsel on the peculiarities of the criminal code.

[2] See, in particular, Paul Tappan, *Comparative Survey of Juvenile Delinquency* (New York: United Nations, Department of Economic and Social Affairs, 1958); Tsung-yi Lin, "Two Types of Delinquent Youth in Chinese Society," in Marvin K. Opler (ed.), *Culture and Mental Health* (New York: Macmillan Co, 1959); Walter A. Lunden, *Statistics on Delinquents and Delinquency* (Springfield, Ill., Charles C Thomas, 1964); E. Jackson Bauer, "The Trend of Juvenile Offenders in the Netherlands and the United States," *Journal of Criminal Law, Criminology, and Police Science*, LV (1964), 359–69.

anecdotal accounts of the times and as the official records of a variety of municipal agencies. As yet, few criminologists have utilized the archives of great metropolitan centers as a basis for studying criminal patterns of behavior, but such investigations are much more convenient and can yield just as much information about the criminal patterns of pre-industrial communities as cross-cultural studies.[3]

One of the reasons criminologists have failed to carry out such investigations may be a widespread suspicion that municipal records, both past and present, are too inaccurate to be usable. No one argues that the police and court records of any period are above suspicion, but the inadequacies of certain portions of these records are not adequate grounds for rejecting the entire archives of a city. Many of the biases in such data can be detected through internal analysis; moreover, the farther back in time one pursues these records, the more accurate and precise they tend to become. It is well known, for example, that the police of small, cohesive communities are considerably more effective in detecting and solving crime than the police of large, urban communities.[4] And even the largest cities in New England today were merely villages or small cities during most of the eighteenth and nineteenth centuries.

In addition, the attitude in New England toward crime was considerably more severe throughout much of its early history than it is today, suggesting that the vigilance and perseverance of the police were much stronger in the eighteenth and nineteenth centuries than they are now. Similarly, the records of New England courts in the eighteenth and nineteenth centuries are remarkable for the consistency with which they describe the apprehension and disposition of the simplest larcenies and the mildest of assaults.[5] If the frequency with which these simple crimes were set down in the court records is any indication of the diligence with which they were pursued, the police must have been vigilant indeed.

THE ARCHIVES OF THE BOSTON POLICE

The present study is based upon the arrest reports of the Boston police, which have been issued annually since 1849; and through them I shall examine the changing criminal patterns of Boston as it grew from a city of 136,000 in 1850 to a great metropolitan center in 1950 with a population of 801,000 in the central city.[6]

A longitudinal study of this type confronts a special difficulty. In addition to

[3] For a recent longitudinal study of a major American city, see Elwin H. Powell, "Crime as a Function of Anomie," *Journal of Criminal Law, Criminology, and Police Science*, LVII (June, 1966), 161–71. An early study of Boston's criminal patterns was performed by Sam Bass Warner, but he used court prosecutions from 1883 to 1932 as his basic data, not police arrest records (see his *Crime and Criminal Statistics in Boston* [Cambridge, Mass.: Harvard University Press, 1934]). In a related study, Leonard V. Harrison examined the arrest records of the Boston police from 1855 to 1932, and although he was concerned with only a few crimes, where his findings are comparable, they agree with my own (see his *Police Administration in Boston* [Cambridge, Mass.: Harvard University Press, 1934]). Robert Topitzer has undertaken an analysis of the criminal patterns of an early period in the history of an American city (see his *Court Proceedings in the Social Order of Boston, 1703–1732* [unpublished Master's thesis, Northeastern University, 1967]). And finally, A. H. Hobbs compared the criminal patterns of eighteenth-century Philadelphia with those found in 1937 (see his "Criminality in Philadelphia," *American Sociological Review*, VIII [1943], 198–202).

[4] The FBI has found that the police of small communities consistently solve a higher percentage of their more mild offenses than their metropolitan colleagues (see, e.g., *Uniform Crime Reports* [Washington, D.C.: Federal Bureau of Investigation, 1964], Table 8, p. 95).

[5] A preliminary analysis by the author of the records of the Boston Police Court for the year 1823 reveals many larcenies of less than fifty cents and a comparable number of assaults involving no more than throwing snowballs or spitting at an individual.

[6] Although the city of Boston had a population of 801,444 in 1950, a better measure of its metropolitan character is the population of its Standard Metropolitan Statistical Area, i.e., 2,410,372.

the actual changes in criminal activity that have occurred over the last century, the arrest trends also reflect changes in police practice as well as changes in the court's definition and interpretation of the criminal code. There is some risk, therefore, of confusing basic changes in criminal activity with more superficial changes in the manner in which the police and the courts have apprehended and dealt with crime over the years.

This risk, however, is more serious for certain kinds of crimes than for others. For example, it is unlikely that there has been a significant change over the last hundred years in the way in which murder has been defined or murderers apprehended. Similarly, forcible rape, robbery, and burglary are sufficiently serious as crimes to forestall drastic changes in their definitions or arresting practices. Minor crimes, on the other hand, may have been handled quite differently by the police of different eras. In the nineteenth century we have already seen that nearly every assault and larceny, no matter how slight, was dealt with in the same fashion as major crimes, that is, the offender was arrested and brought to court. Today, however, if the police in large urban centers were equally vigilant toward minor assaults and larcenies, the apparatus of justice would become completely inoperable. Other difficulties will be evident as we proceed with our analysis, but it must be remembered that all data contain comparable distortions and that these imperfections do not destroy the basic usefulness of our data. They simply make their interpretation somewhat more complex.

CODIFYING THE ARREST REPORTS

Since there was considerable variation in the classificatory systems used by the Boston police over the years, it was necessary, first, to reduce the arrest reports to a consistent and manageable form before beginning their analysis. The most general such schema available is that developed by the FBI in its annual reports of major crime.[7] Seven major classes of crime—(1) criminal homicide, including murder and non-negligent manslaughter; (2) forcible rape; (3) robbery; (4) aggravated assault; (5) burglary; (6) larceny of $50 or over; and (7) auto thefts—are utilized by the FBI in its crime index. For several reasons, however, it was not possible to adhere precisely to this method of classifying crime.

First, the Boston police did not consistently distinguish between negligent and non-negligent manslaughter through the years; hence, a single category—manslaughter—is utilized here which includes both types. Second, it was not possible to differentiate aggravated assault from simple assault with any consistency in the Boston police records; consequently, all assaults were included in the same category. Third, in analyzing the Boston data, it was not possible to distinguish consistently between larceny of $50 and over and larceny of less than $50, as the FBI does. Consequently, all larcenies were thrown into the same category, and a third departure from the FBI schema was the result. Finally, the Boston police did not begin reporting auto theft as a distinct category until 1927, and for this reason it is not included at all in this report. Moreover, since auto thefts were not distinguished from other types of larcenies before 1927, any auto thefts that occurred prior to that year were included in the larceny totals. In all other respects, however, it was possible to conform to the schema developed by the FBI, that is, with regard to the crimes of forcible rape, robbery, and burglary.

Once the data of the original arrest reports had been coded in this fashion, the arrest rate for each crime was calculated by three-year periods to reduce the fluctuations that annual data generally show. Three times in the last century, however, the Boston Police Department was com-

[7] *Uniform Crime Reporting Handbook* (Washington, D.C.: Federal Bureau of Investigation, 1965), pp. 10–38.

pletely reorganized, and the arrest reports for these years changed so radically that they were incomparable with those of the other years. In 1854, for example, the police were consolidated with the watchmen and the constables, and the arrest report of that year covered only seven months. When the police department was reorganized again in 1879, the report covered only ten months, and again in 1885 the same thing happened. Thus, the reports for these three years were not comparable with the rest and could not be used. To compensate for these gaps in the data, therefore, it was necessary to use a five-year period in 1849–53, a four-year period in 1875–78, and a two-year period in 1883–84.

THE PATTERN OF MAJOR CRIMES IN BOSTON

The results of analyzing the original arrest reports in this fashion are presented in Figures 1 through 8. A glance at Figure 1 reveals that the aggregate crime rate in Boston has shown an almost uninterrupted decline from 1875–78 to the present era. The period immediately before the Civil War saw a high rate of major crime, but during and shortly after the Civil War, crime declined, only to rise to an all-time peak in 1875–78.[8] Since that time, the crime rate has declined steadily to a level about *one-third* that in 1875–78.

[8] The arrest reports of the years 1849 53 almost certainly underestimate the amount of crime

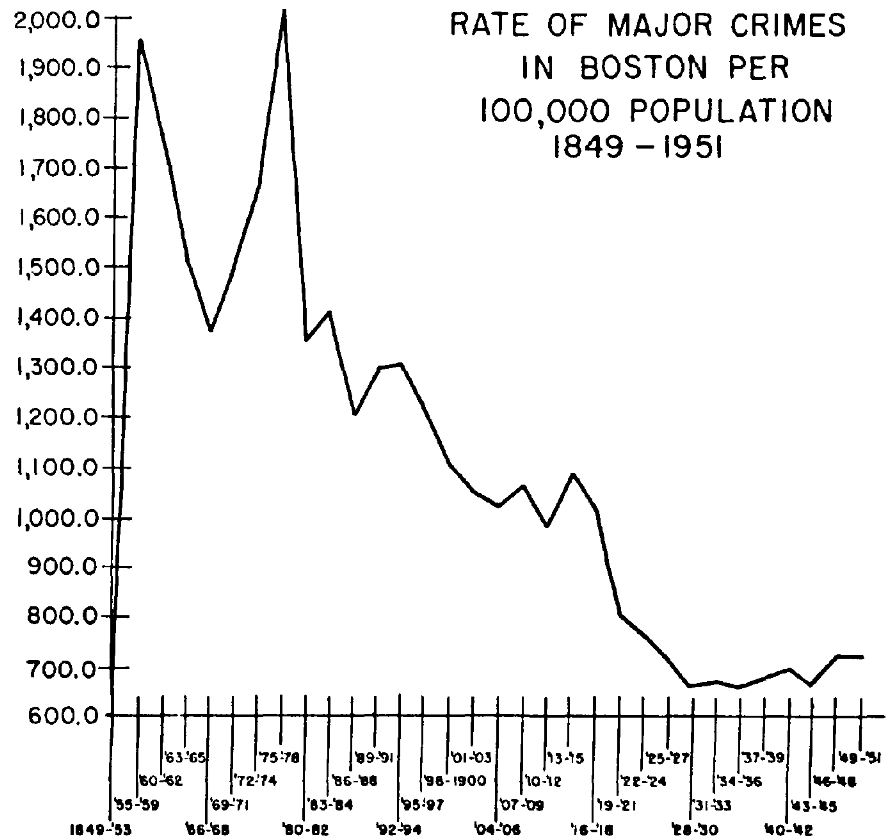


FIG. 1.—Rate of major crimes in Boston per 100,000 population, 1849–1951

I shall have more to say about the trend in Boston's over-all crime rate later, but for the present it should be noted that both the dramatic upturn following the Civil War and the steady decline from a peak around 1875–78 were also experienced by other American cities. Powell documents a rapid rise in serious crime in Buffalo shortly after the Civil War, and Rosenbaum cites several contemporary reports which suggest that there was a similar rise throughout the Northeast.[9] Powell shows also that the peak in serious crime established just after the Civil War in Buffalo was followed by a long decline to the present, broken only by rises in the early part of the twentieth century and in the 1930's.[10] And Willbach shows that Chicago and New York City also experienced a slow but steady decline in major crime rates in the first decades of the twentieth century.[11] It would appear, then, that the long-term trend in major crime in Boston conforms to the pattern exhibited by several other American cities during the same period.

The reasons behind this long-term decline can only be guessed at without further information. The decline may mean, for example, that Bostonians have actually become less criminally inclined as the city grew into a metropolitan center, or it may mean that the city's courts and police have simply softened their approach to crime as the city developed.[12] An examination of the individual crimes described above should throw some light on this question, and, accordingly, let us begin with a consideration of the trend in the murder rate over the last one hundred years.

Figure 2 reveals that the rate of murders in Boston has declined steadily if erratically over the last century. The highest rate occurred in 1855–59, and the lowest rate was registered in 1937–39. Since murder is one of the more serious crimes, it is unlikely that this decline can be attributed to a decrease in police vigilance in dealing with murderers. Today, metropolitan police departments are every bit as effective in solving murders as small-town departments. Moreover, it is difficult to relate the murder rate to specific events in the history of Boston. Neither great wars nor major depressions seem to have had any consistent effect upon the murder rate. During the Civil War the murder rate declined, but during the two world wars it increased slightly. Similarly, the depressions of 1873–78, 1893–98, 1919–21, and 1930–39 seem to have had no consistent influence. It would appear, therefore, that this steady decline reflects something more fundamental, that is, long-term shifts in the structure and organization of the city as it grew into a great metropolitan center.

The long-term trend of manslaughter, however, follows a quite different path. It is apparent from Figure 3 that the manslaughter rate in Boston remained relatively stable from 1849–53 to 1904–6. In

in Boston because the police of that period shared the peace-keeping function with a force of constables in the daytime and watchmen at night. In all likelihood, the arrest reports of the police do not include arrests made by the constables or the watchmen during this period.

[9] Powell, *op. cit.*, p. 164; and Betty B. Rosenbaum, "The Relationship between War and Crime in the United States," *Journal of Criminal Law, Criminology, and Police Science*, XXX (1939–40), 726–29.

[10] Powell, *op. cit.*

[11] Harry Willbach, "The Trend of Crime in Chicago," *Journal of Criminal Law, Criminology, and Police Science*, XXXI (1940–41), 726; and his "The Trend of Crime in New York City," *ibid.*, XXIX (1938), 72.

[12] It would appear that these changes do not simply represent fluctuations in the intensity of police coverage in Boston. From 1855–59 to 1866–68, there was a decline in the rate of major crime of 29.8 per cent, while the number of policemen per 1,000 population was nearly stable at 1.63. Similarly, from 1866–68 to 1872–74, the rate of major crime increased by 21.1 per cent while the number of policemen per 1,000 was increasing from 1.67 in 1867 to 1.83 in 1873 for an increase of only 9 6 per cent (see Edward H. Savage, *Police Records and Recollections* [Boston: Jackson, Dale & Co., 1873], pp. 95, 98, and 104–6).

1907–9, however, it began a sharp rise to a new plateau, roughly *six times* the level throughout the nineteenth century. This new plateau persisted for nearly twenty years, from 1916–18 to 1934–36, when the manslaughter rate began to sink again to a level midway between the high and low levels of the hundred-year period.

There is good reason to believe that these fluctuations reflect primarily the introduction of the automobile in Boston around the turn of the century.[18] We cannot account for them in terms of changes in the statutes governing manslaughter, since the criminal code of Massachusetts from 1901 to the present shows only a minor reduction in

[18] Warner noted the same peculiar pattern in manslaughters in Boston, and since he found that they paralleled prosecutions for motor-vehicle deaths, he concluded that the rise in manslaughters reflected primarily the growing use of autos in the Hub (cf. Warner, *op. cit.*, pp. 20–23). It is interesting to note, moreover, that from 1905 to 1920 the number of motor vehicles registered in the United States increased by a factor of 117.2, while in 1935 there were only 2.9 times as many motor vehicles registered as in 1920 (see Alfred D. Chandler, *Giant Enterprise: Ford, General Motors, and the Automobile Industry* [New York: Harcourt, Brace & World, 1964], p. 4).

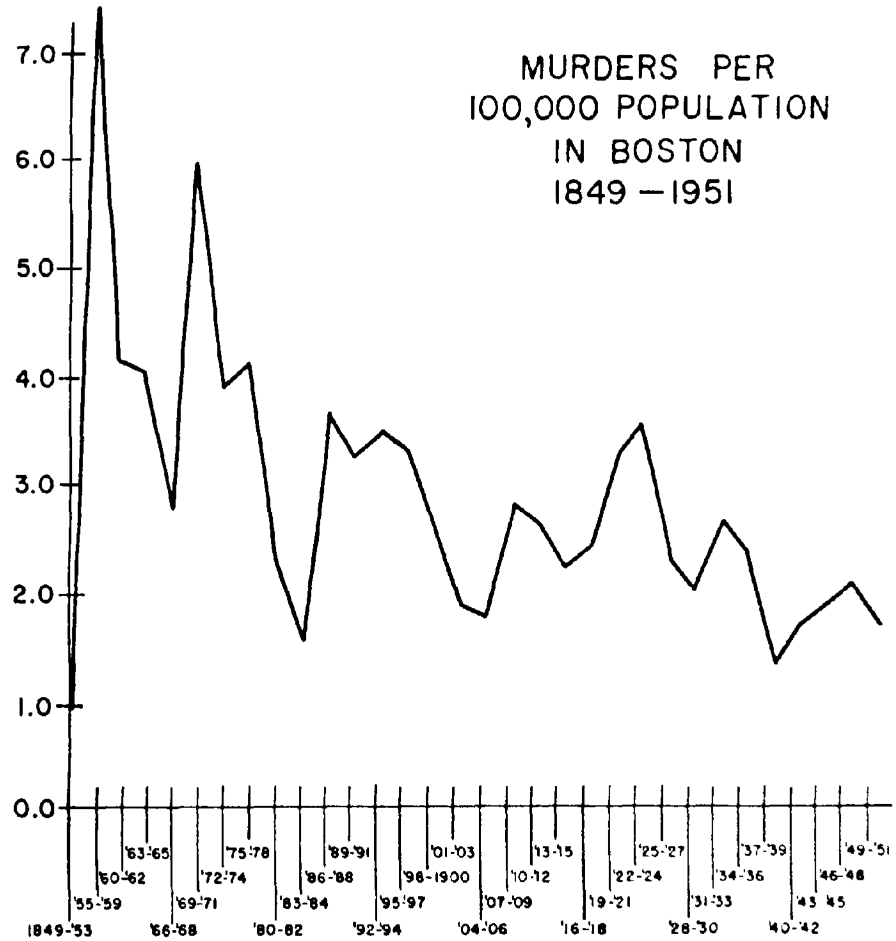


FIG. 2.—Murders per 100,000 population in Boston, 1849 1951

the minimum term of imprisonment from three years to two and one-half years. Moreover, there are no close relationships between the manslaughter rate and such specific events as wars or depressions. Since it seems hardly likely that the mountainous rise in the twentieth century can be explained entirely in terms of changes in the police attitude and practice toward manslaughter as a crime, the rise in manslaughter rates during the first third of the twentieth century probably reflects to a considerable degree the introduction of the automobile during this period.

It is more difficult, however, to explain the decline in manslaughter rates that began in 1934–36. Since this decline continued through the post-World War II period, it cannot be explained as a result of the decrease in cars on the road during the depression and World War II. Moreover, since the murder rate did not show a significant increase during this period, it is not likely that there was any tendency for the police to charge offenders with murder rather than manslaughter. It may be that the recent decline can be explained in terms of improved highways and an increasing skill and experience among the driving public, but before such a conclu-

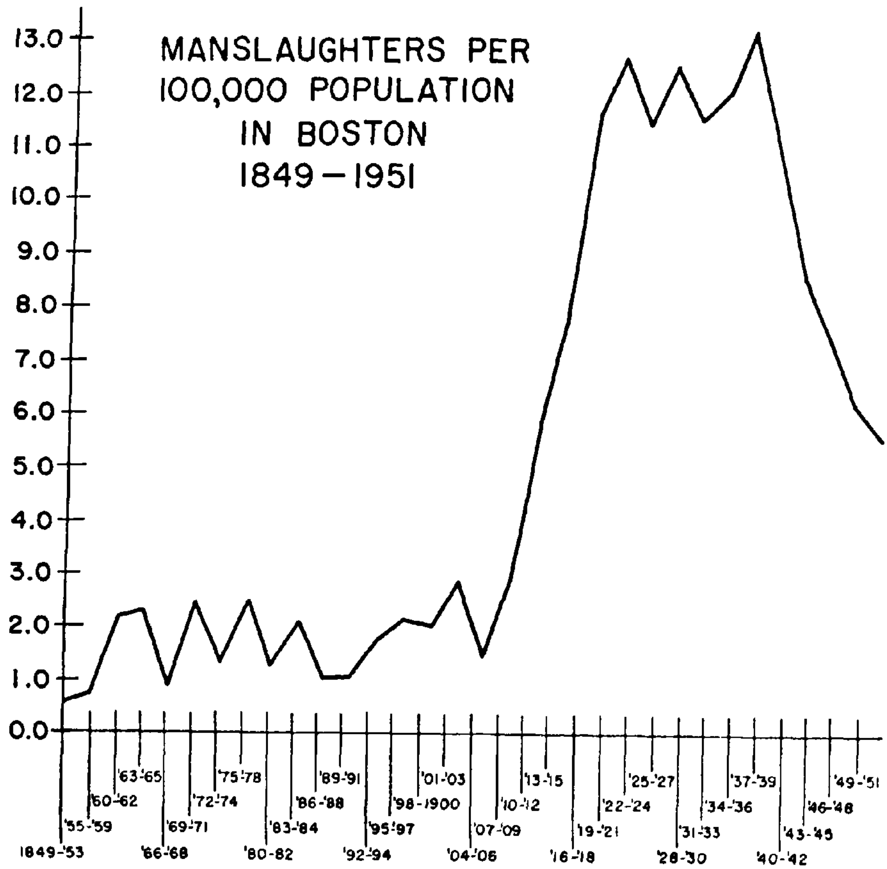


FIG. 3.—Manslaughters per 100,000 population in Boston, 1849-1951

sion can be made with confidence, further information on this issue would be necessary.

The upward trend of forcible rape over the last century requires a somewhat more complicated explanation.[14] Beginning with the simplest factors first, it can be seen from Figure 4 that major wars and severe depressions have been associated with a decline in the rate of forcible rape. The Civil War and World War II were accompanied by minor declines in an otherwise upward tendency, and World War I saw a sharp drop in the rate, although the Spanish-American War was too short to have had any significant effect. The depressions of 1873–78, 1919–21, and 1930–39 all saw appreciable declines, with only the depression of 1893–98 showing an increase in rape. But even there the increase was slowed to some extent. Furthermore, it is clear from Figure 4 that the prosperous years of 1866–72, 1906–15, 1922–27, and 1940–51 witnessed sharp rises in the rate of forcible rape in Boston. Only during the

[14] In 1893, the age of consent in Massachusetts was advanced by statute from ten to sixteen. This means, in effect, that those who were performing sexual intercourse with females between the ages of eleven and sixteen with their consent were guilty of rape after 1893 but not before. Thus, from 1894 on, the rate of forcible rape was inflated to some degree by this statutory change. The continuing rise in the rate of this crime to the present day, however, *cannot* be a result of this single change.

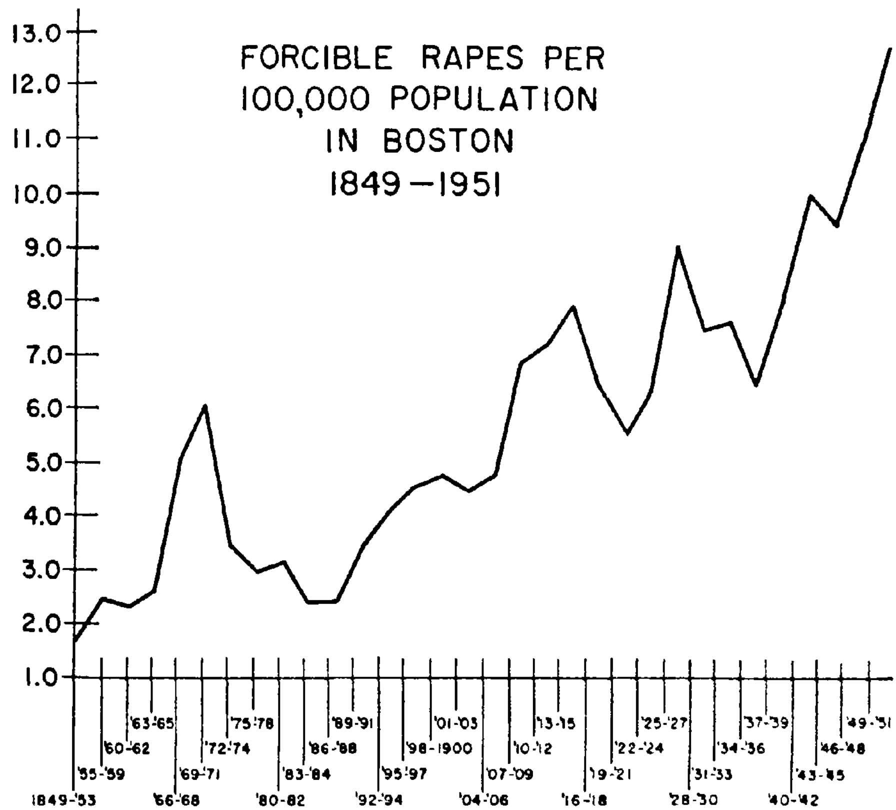


FIG. 4.—Forcible rapes per 100,000 population in Boston, 1849–1951

prosperous years of 1880–92 did the rate fail to rise appreciably.[15]

The relationship between forcible rape and wartime is easily explained. As the proportion of physically able men in the community declines during wartime, the rate of forcible rape declines accordingly. The relationship between rape and the economic cycle, however, is somewhat more difficult to explain. It may be that economic depressions have a psychologically depressive effect such that the individual becomes interested more in preserving and consolidating what he already has than in initiating new and risky adventures. During prosperity, however, his inhibitions may relax to some extent, and the individual becomes somewhat more daring.

There are two other general patterns that are also noteworthy in Figure 4. There can be no mistaking the persistent upward tendency in the rate of forcible rape in Boston over the last century; the lowest rates are found at the beginning of the series, and the highest at the end. Moreover, there appears to be a distinct acceleration in the rise beginning about 1904–6. How might we interpret these two patterns?

The accelerated rise since 1904–6 coincides roughly with the introduction of the automobile and may reflect the influence of this invention upon sexual practices. Thus, as young couples found it easier to seclude themselves from the gaze of society, the incidence of every type of illicit sexual activity increased, including those based on force. The persistent upward tendency since the middle of the nineteenth century, however, may reflect a gradual expansion of the middle class in the social structure of Boston and the accompanying rise in the status of women. As a greater proportion of the population came to adhere to a middle-class style of life, the likelihood that a rape would be brought to the attention of the police and the offender arrested probably also increased. Even today, a middle-class girl is much more likely than a lower-class girl to complain to the authorities when she is molested by her escort. Thus, as far as forcible rape is concerned, it appears that such specific events as economic prosperity and peace have reinforced the general upward trend established by broad social structural changes and the introduction of the automobile among the people of Boston.

With robberies, quite the opposite seems to have been the case. A glance at Figure 5 shows that the long-term tendency in robberies has been generally downward, with extraordinary events superimposing dramatic increases on this downward trend from time to time. Thus, the rate of robberies declined on average from the Civil War to a low in 1901–3. World War I was accompanied by a new high in 1916–18, and after a precipitous decline in the 1920's, the Great Depression saw another new high in 1931–33. The long-term decline set in again after this high, but World War II in turn witnessed a reversal of the trend for several years. Nevertheless, after the war, the general decline again reappeared. Thus, it would seem that the social dislocations of wars and depressions have encouraged a high rate of robberies, whereas broader, more enduring structural changes have contributed to a continuous erosion in the rate of robberies in Boston.

The same general pattern has also been found in Chicago and New York. Willbach's data over the twenty-year period indicate that both cities experienced their highest rate of robberies in 1931–33.[16]

Burglaries, according to Figure 6, have shown much the same tendency as rob-

[15] It is impossible to test the relationship between this crime and the economic cycle in Boston with quantitative data, since there are no reliable long-term data on economic activity in Boston. Data for the United States as a whole do exist going back well into the nineteenth century, but the relevancy of these data to the economy of Boston is not close. Hence, relating them to longitudinal crime rates seems unwise.

[16] Willbach, "The Trend of Crime in Chicago," *op. cit.*, p. 722; and his "The Trend of Crime in New York," *op. cit.*, p. 69.

beries. Superimposed upon a generally declining trend are several unusually high peaks that stem apparently from a series of extraordinary, nationally generated events. Severe depressions, for example, have been accompanied consistently by a high rate of burglary. The highest burglary rate for the entire time span was realized near the end of the Great Depression in 1937–39, and the second highest point occurred near the end of the severe depression of 1873–78. Unlike robberies, however, burglaries have not increased during wartime; indeed, the burglary rate in Boston has declined consistently during all three of the major wars in the last century.

The long-term trend of assaults in Boston, as revealed in Figure 7, exhibits an especially interesting pattern. It appears as if two distinct curves with entirely different characteristics are joined in 1925, one stretching from 1855–59 to 1922–24 and the other running from 1925–27 to 1949–51. The first exhibits a marked responsiveness to such events as major wars and severe depressions, while the second shows very little sensitivity to either. The highest rate of assaults occurred during the depres-

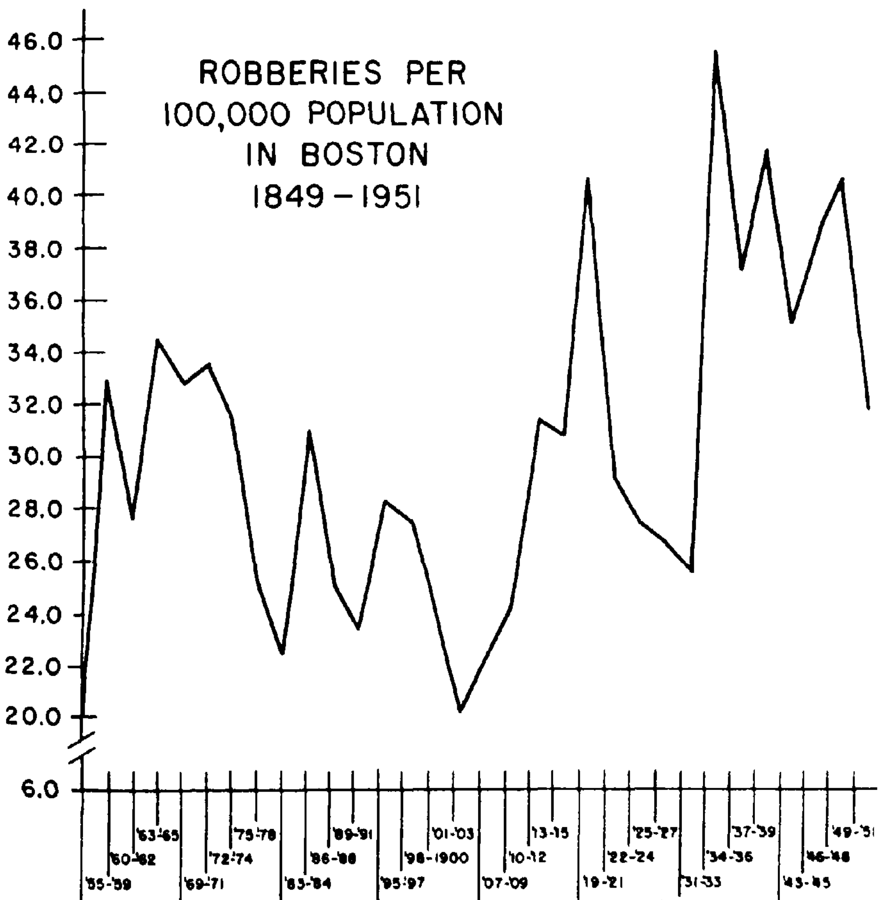


FIG 5—Robberies per 100,000 population in Boston, 1849–1951

sion of 1873–78, but the Great Depression had scarcely any effect. Similarly, the Civil War and World War I were accompanied by distinct drops in the rate of assaults in Boston, but World War II saw little change. In other words, the rate of assaults in Boston seems to have been especially responsive to conditions in the community before 1925, whereas after that date even the most severe dislocations Boston has ever experienced produced little if any reaction.

This rather peculiar pattern probably reflects basic changes in the manner in which the Boston police have dealt with assaults over the last century. If during the nineteenth and early twentieth centuries the police were especially persistent in pursuing those who committed all kinds of assaults, the assault rate would have been especially sensitive to changing conditions in the community. Simple assault embraces a wide variety of acts and involves a relatively large portion of the population. Because it is diffused so widely throughout the community, we might expect that a momentous event, for example, a major war or a severe

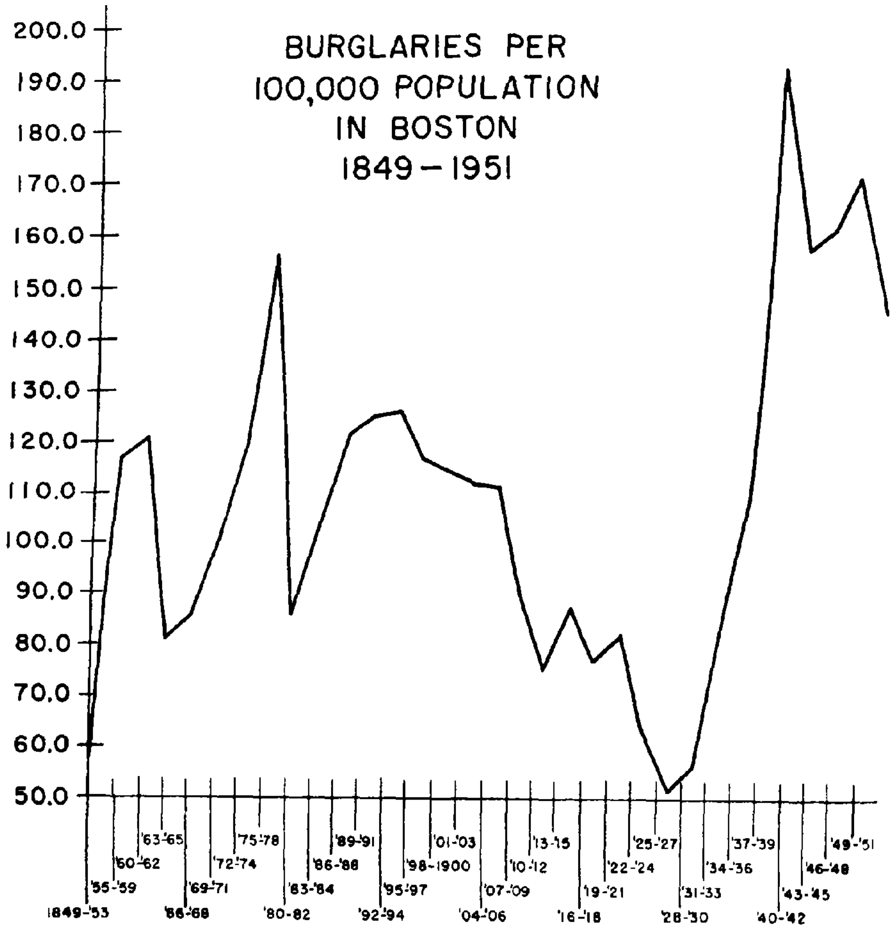


FIG. 6.—Burglaries per 100,000 population in Boston, 1849–1951

depression, would have a considerable impact upon the rate of this crime. Moreover, in the early period when all assaults were being pursued diligently, simple assaults probably comprised the bulk of offenses in this category. Consequently, in the nineteenth century the over-all assault rate was responsive to the stream of historical events in the community.

During the modern era, however, the police have been forced to relax their vigilance toward minor crime, and accordingly, in recent years they have been making proportionately fewer arrests for minor assault. In effect, this means that today aggravated assault is making a greater contribution to the over-all assault rate. But if aggravated assault, like murder, is relatively insensitive to the flow of events in the community, the responsiveness of the assault rate to wars and depressions should be considerably less today than it was in the nineteenth and early twentieth centuries, as it is.

There is no basis upon which a direct

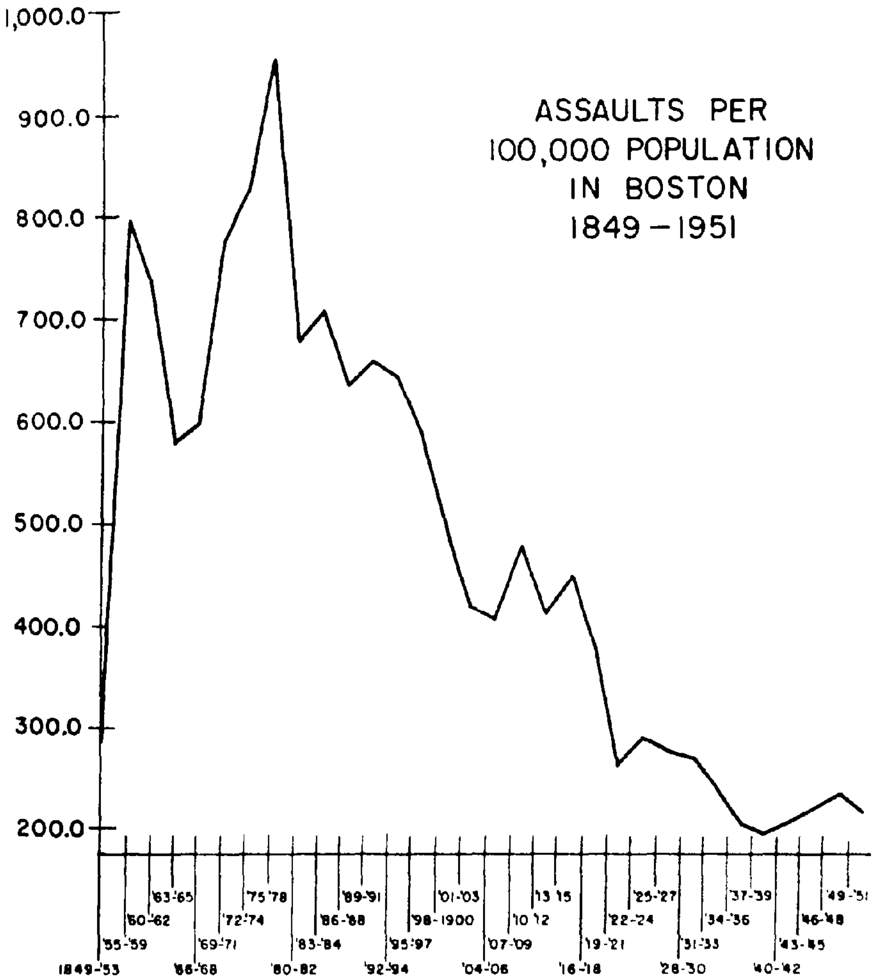


FIG. 7.—Assaults per 100,000 population in Boston, 1849–1951

evaluation of the diligence of the Boston police in the nineteenth century might be made, but I have already remarked on the thoroughness with which the simplest assaults and larcenies were handled by the Boston Police Court in the early part of the nineteenth century. If these practices continued throughout the nineteenth century, it would seem that a high proportion of those involved in assaults and larcenies were, indeed, arrested during that period. By way of comparison, however, in the six-year period from 1960 to 1965, the Boston police solved 56.6 per cent of the aggravated assaults brought to their attention, and of the larcenies reported, they solved only 42.7 per cent.[17] These figures are roughly comparable with the experience of other metropolitan police departments, but they suggest that the nineteenth-century Boston police need not have had a very high arrest percentage to have created the kind of inconsistent pattern described above.

Coming back to the data at hand, it is clear from Figure 8 that larcenies followed much the same pattern as assaults. Here

[17] *The Boston Sunday Globe*, May 8, 1966, p. A-3.

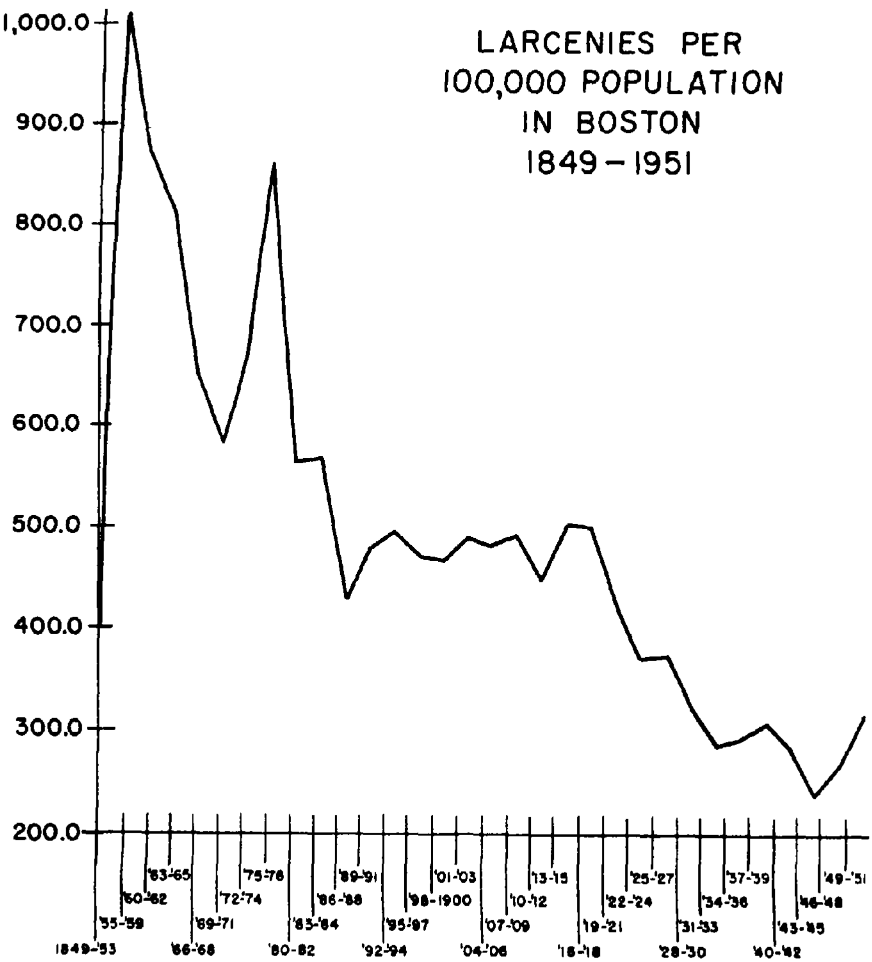


FIG. 8.—Larcenies per 100,000 population in Boston, 1849-1951

again we find two distinct curves: first, an early one displaying a marked sensitivity to community events, followed by a curve showing little response at all. The only difference is that the shift from one type to the other seems to have occurred somewhat earlier, that is, by 1886–88. Thus, before 1886–88 the Civil War was accompanied by a dramatic drop from an all-time peak in 1855–59, which in turn was followed by a sharp rise during the depression of 1873–78. After this early period of rather wide fluctuations, however, World Wars I and II produced only a slight decline, and the Great Depression of 1930–39 brought about only a minor increase in the rate of larcenies. This last is especially interesting in view of the fact that robberies and burglaries both established all-time peaks during the Great Depression. The conclusion that larcenies are not being diligently investigated and solved in the modern era seems inescapable.

AN INTERPRETATION OF BOSTON'S CRIMINAL PATTERN

In terms of this analysis, then, two broad types of factors seem to affect the criminal patterns of a community. On the one hand, we have those specific factors like wars and economic depressions that have a fleeting, though powerful effect upon the criminal patterns of a community; and, on the other, we have those secular factors like an expanding middle class that consist of gradual, enduring changes in the social structure and organization of the community. The latter occur so slowly that their impact in any one year is scarcely noticeable, but their cumulative effect through the years is likely to change fundamentally both the rate and the pattern of criminal activity in the community.

Among the specific factors, the economic cycle is perhaps most powerful. Robberies, burglaries, larcenies, and assaults have all shown an inverse relationship to the level of economic activity in the Hub during the last century, while forcible rape has varied directly with the economic fortunes of Boston.[18] Major wars seem to have had a depressive effect upon major crime in Boston; forcible rape, burglary, assault, and larceny all have declined rather consistently whenever Boston became involved in a major war. Only murder and manslaughter have shown little sensitivity to the influences of the economic cycle or wars.

Quite independent of these specific factors, several of the crimes examined here have shown tendencies that may well reflect basic, secular shifts in the social structure of Boston. We have already mentioned the automobile as a factor in the rise in manslaughter and forcible rape, but there are several other social changes that must have had a profound effect upon the criminal patterns of Boston as it moved into the twentieth century.

First, the mechanisms of social control in a metropolis are much less personal and, therefore, much less effective in preventing deviancy of all kinds, and in a metropolis there is a much greater spirit of independence and personal freedom.[19] Second, the metropolis nearly always harbors a well-organized underworld in which a wide variety of criminal activities are pursued, including those involving the most serious kinds of crimes. These two changes alone would tend to produce increases in the rates of most crimes as a small city grew into a great metropolis, although it must be noted

[18] These results are generally consistent with those reported by Daniel Glaser and Kent Rice in their study, "Crime, Age, and Employment," *American Sociological Review*, XXIV, No. 5 (October, 1959), 683. See also William F. Ogburn and Dorothy S. Thomas, "The Influence of the Business Cycle on Certain Social Conditions," *Journal of the American Statistical Association*, XVIII (September, 1922), 324–40.

[19] The best discussion of the relationship between mechanisms of social control and social organization is contained in Georg Simmel's "The Persistence of Social Groups," reprinted in Edgar F. Borgatta and Henry J Meyer (eds.), *Sociological Theory* (New York: Alfred A. Knopf, Inc., 1959), pp. 373–75. Simmel also provides, perhaps, the deepest insight into the character of urban man (see his "The Metropolis and Mental Life," *Sociology of Georg Simmel* [New York: Free Press, 1950], pp. 409–24).

that few members of organized crime are ever arrested for their misdeeds.

Several other structural changes have probably influenced the crime rate in the opposite direction. Most American cities have grown in size primarily by assimilating large numbers of peoples who initially at least had little familiarity with urban manners and institutions. For example, Boston was inundated in the nineteenth century, first, by the starving yeomen of Ireland and, then, by the impoverished peasants of Sicily and southern Italy.[20] These immigrants were eventually assimilated by the city, but both the immigrants and the city suffered grievously in the process. There can be little doubt that the gradual adjustment of the descendants of the Irish and Italian immigrants to the urban patterns of Boston has resulted over the years in a gradual reduction in the city's crime rate.

And by the same token, the fact that the city, like most American communities, has enjoyed a gradually rising standard of living during nearly the entire period of this study must have had a significant effect upon its crime rate.[21] The rising standard of living of Bostonians was probably accompanied by a relative stabilization of their employment and ultimately of their community life as well. Hence crimes usually associated with economic distress and social disorganization have declined in proportion to other types of crime, while sexual crimes, which are probably more common among the higher economic classes, have increased to some extent.

[20] Oscar Handlin reports that, in 1850, 35 0 per cent of the Boston population were foreign born. In 1855 the figure was 37.9 per cent, in 1865 it was 34 3 per cent, and in 1880 it was still 31.6 per cent (see his *Boston's Immigrants* [Cambridge, Mass.: Harvard University Press, 1959], pp. 243–44, 246, and 261). In 1960 the percentage of foreign born in Boston was 15 8 per cent.

[21] See Bernard Barber, *Social Stratification* (New York: Harcourt, Brace & Co., 1957), chap. xvi, for a careful discussion of the changing class structure in America.

Taking into account all types of structural change, then, we can see that there have been counterbalancing pressures on the crime rate as Boston grew from a small city into a large metropolis. The fact that the crime problem has declined on balance leads me to suspect that, in the long run, those forces tending to diminish crime in Boston have been more powerful, although of course, there is no way of evaluating this view more precisely with the data at hand. This issue can only be settled conclusively when, perhaps, twenty or thirty similar studies of other cities have been performed. At that point, the specific relationship between crime rates and single factors like social control and the broader relationships between social organization and criminal patterns can be more precisely determined.

SOME CONCLUSIONS

In conclusion, then, I have examined the criminal patterns of Boston over the long term, and the results suggest that the patterns of deviant behavior in the community as measured by police arrests depend basically upon three factors: the attitude and effectiveness of the police; the occurrence of momentary events in the community that have the effect of disturbing and dislocating the established social routines; and the occurrence of enduring changes in the structure of the community in response to qualitative changes in its function. The over-all effect of both the momentary events and the more enduring changes in Boston's structure has been to encourage an intermittent but persistent downward tendency in the rate of every major crime except forcible rape and manslaughter.

This downward drift, of course, stands in stark contrast to the popular belief that crime is growing more rampant and more serious every year. This belief has been largely fostered by the annual reports issued by the FBI, where appalling increases in crime and delinquency are monotonously recorded. The FBI has been issuing these

reports only since 1930, and as Figure 1 indicates, the crime rate in Boston has, indeed, risen slightly since then. But even if we assume that the *long-term trend* in Boston and other major metropolitan centers has been downward, we need not conclude that there is a basic contradiction between these data and the trends traced by the annual reports of the FBI. The migration pattern of this nation over the last one hundred years has been from areas of low crime rates, that is, rural areas and small towns, to areas of high crime rates, that is, large urban centers; and a chronic increase in the crime rate in the entire society is not inconsistent with a steady decrease in the crime rates of its large cities.[22]

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[22] To illustrate the validity of this conclusion consider the following hypothetical example. Suppose we have a society of 1,000,000 in which 80 per cent of the population lives in villages where the crime rate is 40 per 1,000 The remaining 20 per cent lives in urban areas where the crime rate is 100 per 1,000 The crime rate for such a society would be 52 per 1,000 Now suppose the village crime rate remains at 40 per 1,000, the urban crime rate *drops* to 60 per 1,000, and the percentage in urban areas rises to 90 per cent of the total, which is still 1,000,000. The new crime rate for the society has risen to 58 per 1,000 even though the rate has fallen sharply in the cities

Determinants of Span of Control[1]

Gerald D. Bell

ABSTRACT

This investigation explores three determinants of span of control Interviews were conducted with supervisors and their employees in a community hospital. The findings suggest that when subordinates' jobs are highly complex, span of control is decreased. Similarly, the more complex a supervisor's job the lower his span of control. Closeness of supervision on the other hand was unrelated to administrators' spans of supervision. Finally, subordinates' and supervisors' job complexity were found to be positively related. These findings suggest that technological characteristics of productive processes are key determinants of variations in size of spans of control.

Even though the magic range of five to seven is repeatedly cited as an ideal size for administrators' spans of control, there are many cases reported in which effective spans have ranged from one up to thirty.[2] One might ask, then, what are the determinants of variations in size of span of control?

Perspectives on this subject have been taken primarily from the supervisor's position, and many investigations have been directed toward determining psychological and group properties which affect supervisory control.[3] There is an absence of concern with limitations placed upon span of control which stem from technological demands of the productive processes.[4]

Pertinent literature concerning characteristics of productive activities suggests three main factors which affect span of control. These are: (1) the complexity of the tasks performed by subordinates, (2) the extent to which administrators closely supervise their charges, and, finally, (3) the complexity of supervisors' jobs. The aim of this paper is to explore the associations between the above three factors and span of control.

Span of control refers to the number of workers directly supervised by an administrator. Job complexity indicates the qualitative difficulty of an individual's job, while closeness of supervision is defined by the degree to which a supervisor observes and regulates his subordinates' activities.

RESEARCH DESIGN

Data were gathered for this investigation in the Griffin Community Hospital which is located in Derby, a small city near New Haven, Connecticut. The sample selected for study within the hospital was composed of the 204 full-time, day-shift employees.

[1] The author is greatly indebted to Stanley H. Udy, Jr., Elton F. Jackson, and Chris Argyris, who provided keen critiques of several of the ideas presented in this paper. Part of the research is based on the author's dissertation, "Formality Versus Flexibility in Complex Organizations: A Comparative Investigation Within a Hospital" (unpublished Ph D. dissertation, Yale University, 1965). The research was conducted while the author held a United States Public Health Training Fellowship. Revision of a paper presented at the American Sociological Association's Sixty-First Annual Meeting, Miami Beach, Florida, September, 1966.

[2] Doris R. Entwisle and John Walton, "Observations on the Span of Control," *Administrative Science Quarterly*, V (March, 1961), 522–34.

[3] For a review of these investigations, see Peter M. Blau and W. Richard Scott, *Formal Organizations* (San Francisco: Chandler Publishing Co., 1962), pp. 140–83.

[4] For an exception, see Stanley H Udy, Jr., "Technical and Institutional Factors in Production Organization: A Preliminary Model," *American Journal of Sociology*, LXVII (November, 1961), 251.

These day-shift workers were distributed throughout thirty-three departments in the hospital. Three of these departments, however, consisted of only two employees each and thus they were dropped from the study.[5] The departments included in the sample and their scores on the main variables listed above appear in Table 1.

The data were collected by two methods. First, informal observations and interviews were conducted from January through June, 1963. Second, a questionnaire was used which was pretested at Grace New Haven Hospital, revised, and pretested again at the same institution. They were then distributed in Griffin Community Hospital in mid-May, and final followups were completed in the second week of June, 1963. An 84 per cent return was obtained

A relatively high proportion of respondents were (*a*) Catholics (62 per cent), (*b*) nurses (30 per cent), (*c*) over forty years of age (61 per cent), (*d*) married (57 per cent), and (*e*) had completed high school (54 per cent). No significant differences were found between non-respondents and respondents as far as age, length of employ-

[5] The small size of the departments, of course, sets limits upon any generalizations from this study. However, the processes involved would seem to be applicable to large organizations. See, e g., Peter M. Blau, Wolf V. Heydebrand, and Robert E. Stauffer, "The Structure of Small Bureaucrades," *American Sociological Review,* XXXI (April, 1966), 179–92.

TABLE 1

DEPARTMENTS AND THEIR ATTRIBUTES

Departments	Size*	Average Span of Control	Average Subordinates' Job Complexity	Average Supervisors' Job Complexity	Average Closeness of Supervision
Administration	5	L	H	H	L
Business Office	9	L	H	H	L
Admitting Office	5	H	M	L	M
Purchasing	4	M	L	H	M
Dietary	19	M	M	H	M
Housekeeping	10	H	L	L	H
Laundry	11	H	L	L	H
Maintenance	9	M	H	L	L
Nursing Adm.	6	M	H	H	L
Nursing Dept 1	6	M	M	H	L
Pediatrics	6	M	M	M	M
Maternity	6	H	M	H	L
Nursing Dept. 2	5	M	M	M	L
Surgery 2	5	H	M	H	L
Nursing Dept. 3	7	H	M	M	M
Surgery 3	4	M	L	M	L
Self-care Unit	4	M	L	L	M
Medical Records	6	M	L	M	H
Operating Room	9	M	M	L	L
Delivery Room	8	H	L	H	L
Anesthesia	5	L	H	H	L
Radiology	9	L	M	H	H
Laboratories	10	L	H	H	M
Central Supply	8	H	L	L	M
Pharmacy	4	L	L	H	H
Emergency Room	6	H	H	M	L
Psychiatric Clinic	5	L	H	H	H
Health Clinic	4	L	H	L	M
Physical Therapy	5	H	L	L	H
Recovery Room	4	M	L	L	M

* Full-time, day-shift employees.

ment, marital status, religion, department of employment, and education. However, a disproportionate number (56 per cent) of non-respondents were nurses. This factor merits special comment.[6]

Shortly after the research was begun there was a change in nursing administration which caused tension and suspicion among the nurses. As a result of the change from a "motherly" to a more "task oriented" administrator, the researcher was faced with problems of convincing the nurses that he was not connected with management or the new nursing administrator. In spite of intensive attempts to remove this false perception, it appeared that the thirteen nurses who did not complete the questionnaire were quite insecure and anxious about their positions. Therefore, our findings might be biased to some extent by the self-elimination of insecure respondents.

DEFINITIONS AND MAJOR CONCEPTS

Span of control was measured by simply counting the number of subordinates under the control of each supervisor. The spans of control were relatively small due to the minute size of the departments within the organization. We computed the average span of control for each department by summing the spans of management for each supervisor within a given department and then dividing this total by the number of supervisors in that unit. Supervisors who had five or more subordinates were placed in the high span of control category, those with three or four subordinates in the medium group, and those with one or two subordinates in the low span of control category.

To develop an individual level analysis it would have been necessary to know the exact subordinates each supervisor controlled and then to have ascertained the average complexity of the tasks these subordinates carried out. Data were collected on the task complexity for each subordinate; however, names of subordinates over which a supervisor was in charge were not ascertained. The variations in spans of control within departments, however, were quite small. Thus, by taking the departmental average we are not distorting the individual level of analysis to a great extent; for supervisors' spans of control differed within only eight of the thirty departments, and in only two of these units did supervisors' spans vary by two ranks.

Thus, even though the departmental indexes are crude in the sense that they do away with some individual differences within each supervisory level in the departments, and they may suffer from problems of ecological correlation, they allow us to provide tentative evidence concerning the hypotheses.

The index of the *complexity of subordinates' and supervisors' jobs* was composed of four factors: (1) degree of predictability of work demands, (2) amount of discretion they exercise, (3) extent of responsibility they have, and (4) number of different tasks they perform. *Predictability* was established by asking respondents two questions. First, they were asked, "If you wrote a list of the exact work demands which you expect to confront you on an average workday, what per cent of these do you think would be interrupted by unexpected events?" The second question was, "Every job is composed of certain routine and repetitive activities. What per cent of the *work demands* connected with your job would you consider to be of a routine nature?" There were five possible answers to these two questions, ranging from "0 to 20 per cent of my activities" to "80 to 100 per cent."[7]

Discretion was measured by asking respondents three questions. They were first asked (1) to list the main tasks they performed during a typical workweek and then

[6] Approximately 30 per cent of the employees in the hospital were nurses.

[7] The Kendall's T rank-order correlation between these two questions is $r_c = .52$, $P < .001$, and thus lends some credence to the assumption that these two indicators are representing the same concept.

to indicate for *which* of these tasks they used their own judgment concerning whether or not to actually perform them. In the second question we asked (2) for which of the tasks they performed did they exercise their own judgment in determining *how* they performed them. In the final question, respondents were asked (3) for which of the tasks they performed did they make decisions in determining *in what order* the tasks were carried out. The scores were summed, and then respondents were ranked according to the total per cent of decisions they made.[8]

Responsibility was established by asking supervisors to estimate and then give examples of (*a*) the average length of time in the future for which their decisions committed the hospital, and (*b*) the average length of time which elapsed after they made decisions before someone checked up on their judgment.[9]

Finally, to measure *the number of different tasks* which individuals performed, the researcher held lengthy discussions with each respondent. Respondents were asked in a personal interview what were the main activities they performed on a typical workday. They were asked to list these tasks beginning with the first ones performed in the morning and progressing to a listing of the tasks they performed up to the end of the workday. A janitor, for example, would say something like the following:

> I just start out in the morning by picking up my supplies—brooms, mops, cloths, buckets—and I carry these to the first floor over on the West Wing. I go up and down the halls sweeping the floors for about fifteen minutes there, then I clean the trays and dust in the halls After that I go into each room and empty the trash first, then sweep, dust, mop and so on .

By the end of the day the janitor has performed approximately thirty to thirty-five different tasks. Many of these tasks are repeated quite frequently. Picking up supplies was counted as one task, carrying these to an assignment was a second, sweeping floors a third, and so forth.

In contrast, a department head would state something like:

> I start out in the morning by (1) asking the night-shift supervisor about each patient. (2) I keep notes on each patient, then (3) make a plan for the day for each one, (4) decide what should be done with each one, (5) who should do it, (6) talk with others about their ideas in regard to the above, (7) then assign jobs to each person in our department, (8) call admissions to find how many new patients we have coming in during the day. (9) plan how to handle these newcomers (10) I then go around and check to make sure all the assignments are being carried out, and so forth

A typical department head performs about 180 to 200 different tasks on an average workday. The tasks differ in content and quality, of course, from those of the janitor. However, for the present we are concerned only with the number of different tasks.

It is assumed that when an individual is confronted by many *unexpected events* the decisions he makes will be more difficult since there will be many alternatives to consider, and the alternatives themselves will be of a diverse nature. Consequently, *decision-making* efforts will be more perplexing and time-consuming. Correspondingly, the more *different tasks* he has of the above nature the more complex his job will be. And, finally, the more *responsibility* he has the more important the consequences of his decisions will be, and therefore the more attention he will devote to trying to make good decisions. Thus, when these four factors are present, employees' jobs are considered to be highly complex.[10]

An index of *closeness of supervision* was established by asking respondents two questions. First, they were asked, "How often does your supervisor keep a close

[8] These three questions were all intercorrelated above $r_c = .78$, $P < .001$.

[9] See Elliot Jaques, *The Measurement of Responsibility* (Cambridge, Mass · Harvard University Press, 1956).

[10] For another measure of job complexity, see Udy, *op. cit.* (n 4)

check on what you are doing and closely observe your work?" There were five possible responses to this question, ranging from "very often" to "seldom." Second, they were asked, "To what extent does your immediate supervisor influence what you do in a typical workweek?" Again there were five possible responses, ranging from "0 to 20 per cent of my activities" to "80 to 100 per cent of my activities." Respondents' scores on these two questions were added, and workers were ranked into nine categories of closeness of supervision. The data indicate that these two indexes are moderately associated, and, thus, the relationship is consistent with the assumption that we are measuring the same underlying variable—which we have labeled closeness of supervision. (Kendall's T rank-order correlation between these two questions is $r_c = .54$, $P < .001$.)

Since this measure of closeness of supervision involves the workers' perceptions of how closely they are supervised, it is possible that their estimates could be biased by many personality and social-background factors. Holding the extent of the "real closeness of supervision" constant, for example, a highly-authoritarian worker might believe he is not closely supervised, while a non-authoritarian individual might feel that he is very closely controlled. With this limitation in mind, we attempted to control for, at least partially, possible selective perception biases by asking supervisors how closely they controlled their subordinates. Then supervisors' scores on closeness of supervision in each of the departments were correlated with the average closeness of supervision scores as determined by the subordinates' estimates. The supervisors' estimates, of course, are subject to the same type of perception biases; however, the likelihood of both the subordinate and the supervisor in the same department having biased estimates is probably small.

The relationship between these two factors was both positive and significant at the .01 level, and thus lends some support to our measure of closeness of supervision. (Kendall's T $r_c = .63$, $P < .01$.) This support is only partial, however, since we had to consider departments as the unit of analysis, and thus we did not have the supervisors' corroborating estimates of closeness of control for each subordinate. This later estimate would appear to be a more valid index upon which future research might be based.

THE FINDINGS

SUBORDINATES' TASK COMPLEXITY AND SPAN OF CONTROL

When subordinates' jobs are highly complex it is very difficult for supervisors to control more than a few employees. When subordinates are continually performing a variety of novel activities, when their decisions have many diverse alternatives to be considered, supervisors will spend much time and energy with each subordinate in controlling his work. The subordinates' problems will be difficult to solve and thus will require much attention from the supervisor.

Consistent with the above interpretation is Richardson and Walker's finding that in an automated plant, as jobs were enlarged, that is, as the workers performed more different tasks and had more discretion and responsibility, the supervisors' spans of control were delimited.[11] And in a study of a cabinet factory, Miles, Eyre, and Bennett indicate that the types of skills needed to perform cabinet work involved much discretion and the performance of many different tasks on the part of subordinates; and, correspondingly, the supervisors had narrow spans of control.[12] Blau and Scott also

[11] Frederick L. Richardson and Charles R. Walker, *Human Relations in an Expanding Company* (New Haven, Conn.: Labor and Management Center, Yale University, 1948), p. 27.

[12] G. H. Miles, A. B. Eyre, and H. P. Bennett, "An Investigation in a Cabinet Factory," *Occupational Psychology* (April, 1923), p. 223.

report findings which are consistent with the above notions.[13]

We have hypothesized, then, that *the more complex the subordinates' tasks the lower the supervisors' spans of control.*

The rank-order correlation between these two variables indicates that they are negatively and significantly related (Table 2). The more complex subordinates' tasks the narrower the supervisors' spans of control. On the other hand, when subordinates have relatively straight-forward jobs, their supervisors are able to control a larger number of employees. Furthermore, when the size of departments is controlled the above relationship remains both statistically significant, although it is decreased, and negative in direction. Similarly, there was no meaningful modification of the relationship when controlling for closeness of supervision and supervisory job complexity.[14] Thus, we can tentatively conclude that the greater complexity of tasks which one's subordinates perform the fewer individuals a supervisor can control.

SPAN OF CONTROL AND AND CLOSENESS OF SUPERVISION

Previous research suggests that closeness of supervision indirectly affects the job complexity of subordinates.[15] When supervisors closely regulate subordinates' activities, the latter's discretion is restricted and their responsibility delimited. Consequently, closeness of supervision is an indirect cause of supervisors' span of control. For the closer the supervision the less complex the subordinates' jobs; and when job complexity is low, supervisors are able to control a larger number of subordinates. Thus, closeness of supervision indirectly increases span of control.[16]

In addition to this indirect effect, it is also interesting to note that closeness of supervision appears to have a direct negative effect upon supervisors' spans of control. Simply stated, we might theorize that the closer an administrator supervises his subordinates the fewer subordinates he could control. The more closely he attends to his subordinates the more time and energy he will have to spend with each worker. On the contrary, when a supervisor is keeping a distant relationship with his charges, we would expect him to be able to control a larger number. Following this reasoning we have hypothesized that *the closer the supervision the narrower the span of control.* An interesting point now arises in connection with the above hypothesis. That is, if the above postulate is valid, then we have a case in which the indirect and the direct effect of closeness of supervision are producing opposite results upon span of control. The indirect effect of closeness of supervision causes low discretion, which, in turn, causes subordinates to perform few different tasks, which finally encourages supervisors to have large spans of control. Thus, in the indirect causal network, closeness of supervision is a positive determi-

TABLE 2

RELATIONSHIPS BETWEEN COMPLEXITY OF SUBORDINATES' TASKS AND SPAN OF CONTROL

Span of Control	Subordinates' Task Complexity*				
	Low 1	2	Medium 3	4	High 5
Low	0	1	1	3	3
Medium	1	5	5	0	2
High	3	2	4	1	0

* $r_r = -.47$, $P < .01$

[13] Blau and Scott, *op cit.* (n. 3), pp. 160–61.

[14] For small departments $r_o = -.42$, $P < .01$; for large departments $r_o = -.35$, $P < .01$; for close supervision $r_s = -.51$, $P < .01$; for distant supervision $r_o = -.48$, $P < .01$; for high supervisory task complexity $r_o = -.62$, $P < .01$; for low supervisory task complexity $r_r = -.37$, $P < .01$.

[15] Bell, *op. cit.* (n. 1).

[16] *Ibid*

nant, producing large spans of control (Fig. 1).

On the contrary, the direct effect of closeness of supervision upon span of control is a negative one. That is, we would expect that the more closely one supervised his subordinates the narrower would be his span of control. Let us turn, then, to an analysis of how this potential dilemma is accommodated within the organization by considering the hypothesis that *the closer the supervision the narrower the span of control.*[17]

When span of control and closeness of supervision are correlated, the data indicate that the hypothesis is not supported (Table 3). Although this relationship is what one would expect when the independent variable has both a positive (although indirect) and a negative effect upon the dependent variable, when controls were made in the attempt to limit the indirect effect there was still no association between closeness of supervision and span of control. This nonrelationship was maintained when controlling for supervisors' and subordinates' job complexity within departments. Similarly, there appeared to be few, if any, structural effects between these variables.[18]

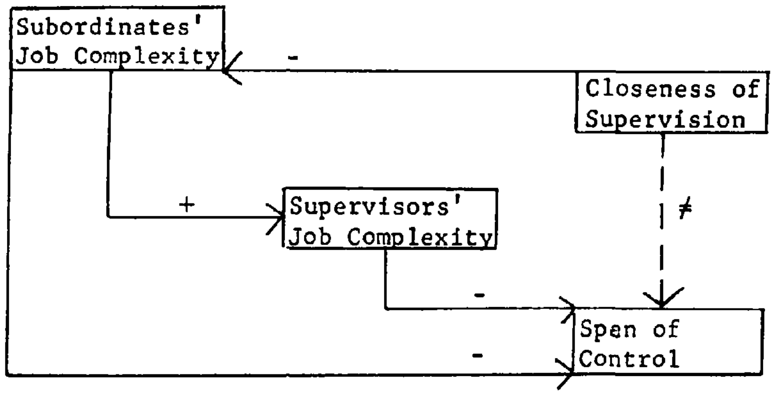


FIG. 1.—Causal relationships. *Arrows* indicate the direction of the associations, while *plus* and *minus signs* suggest positive and negative relationships, respectively.

TABLE 3

RELATIONSHIP BETWEEN CLOSENESS OF SUPERVISION AND SPAN OF CONTROL

SPAN OF CONTROL	CLOSENESS OF SUPERVISION*				
	High 1	2	3	4	Low 5
Low..	3	1	1	2	1
Medium	1	5	4	1	1
High. .	3	3	2	2	0

* $r_c = .09$, $P < .01$.

One possible explanation for this finding, other than the fact that the hypothesis is actually not tenable or that we were unable to control the indirect effect of closeness of supervision, might stem from the relationship between rule usage and closeness of supervision.

Previous research indicates that one of the means by which administrators attempt

[17] It should be pointed out that several investigations have posited an opposite causal direction between these two factors. However, in this organization it appeared that there were few formal procedures established for creating or maintaining given levels of span of control. Rather, it appeared that span of control was determined by other factors such as are examined here. See, for instance, George Strauss and Leonard R. Sayles, *Personnel* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963), p. 379.

[18] For measurements of structural effects we drew rough scattergrams.

to control their subordinates is through the utilization of rules and regulations.[19] And if management utilizes rules as a substitute for personally supervising their subordinates, then their control efforts would not be as time-consuming as would be their attempts at personally supervising subordinates. Consequently, management control via rules would not directly affect span of control. And, thus, the direct effect of closeness of supervision upon span of control might be reduced.

If the above notions are valid, then the utilization of rules in regulating workers' behavior might partially explain the lack of a significant relationship between closeness of supervision and span of control. The interrelationships between the above variables would, nevertheless, seem to merit attention in future research.

SUPERVISORS' JOB COMPLEXITY IN RELATION TO SPAN OF CONTROL

The third element which has an important influence upon span of control is the supervisors' job complexity. Supervisors' job complexity influences span of control primarily by an ecological type of relationship. When supervisors are performing complex tasks, they are able to devote less time to controlling subordinates. Furthermore, in this case the duties of the supervisor probably are co-ordinating tasks, rather than direct, personal supervision of task performance. The activities he performs are highly diverse and involved, especially in decision-making pursuits.

On the other hand, when supervisors have relatively simple jobs, their decision-making efforts are less complex and they are able to devote a much greater proportion of their time to supervising subordinates. Consequently, they tend to have more subordinates or greater spans of control.

Stinchcombe reports, for instance, that in mass-production industries supervisors have fairly simple jobs and at the same time have wide spans of control. However, in construction firms he found that supervisors had quite diverse activities and narrow spans of control.[20] Evidently, in these different organizations the ability of supervisors, who had unique tasks, to control subordinates was curtailed by their expenditure of both time and effort in performing many varied activities.

We have theorized, then, that *the more complex the supervisors' tasks the narrower the span of control.*

THE FINDINGS

The findings indicate that our hypothesis is moderately supported (Table 4)

TABLE 4

RELATIONSHIP BETWEEN SUPERVISORS' TASK COMPLEXITY AND SPAN OF CONTROL

SPAN OF CONTROL	SUPERVISORS' TASK COMPLEXITY*				
	Low 1	2	3	4	High 5
Low	0	1	0	5	2
Medium	0	4	4	2	2
High	2	3	2	2	1

* $r_c = -.38$, $P < .01$

The more complex the tasks of administrators are the fewer the number of subordinates they control. Furthermore, this relationship was unaltered when controlling for subordinates' job complexity, closeness of supervision, and size of department.[21] Also, controls for possible structural effects indicate that these variables seem to be related only on an individual level.

[19] Strauss and Sayles, *op. cit.* (n. 17)

[20] Arthur L. Stinchcombe, "Bureaucratic and Craft Administration of Production: A Comparative Study," *Administrative Science Quarterly*, IV (1959), 173

[21] For high subordinates' job complexity $r_c = -.59$, $P < .01$; for low $r_c = -.39$, $P < .01$; for close supervision $r_c = -.28$, $P < .01$; for distant supervision $r_c = -.33$, $P < .01$; for small departments $r_c = -.31$, $P < .01$; for large departments $r_c = -.38$, $P < .01$.

SUBORDINATES' AND SUPERVISORS' TASK COMPLEXITY

It should be noted that both subordinates' and supervisors' task complexity tend to decrease spans of control. These two factors appear to have an additive effect because the more complex are subordinates' activities the more their supervisors' jobs are unpredictable, which in turn encourages them to exert much discretion and a large number of different tasks (Table 5). These latter three factors combine to increase the complexity of supervisors' jobs. Thus, when subordinates'

TABLE 5

RELATIONSHIP BETWEEN SUBORDINATES' AND SUPERVISORS' TASK COMPLEXITY

Subordinates' Task Complexity	Supervisors' Task Complexity*				
	Low 1	2	3	4	High 5
Low—1	2	1	1	0	0
2	0	3	1	3	0
3	0	2	3	2	3
4	0	1	1	2	0
High—5	0	1	0	2	2

* $r_c = .37$, $P < .01$

jobs are highly complex, the complexity makes it difficult for supervisors to keep up with the subordinates' activities. Therefore, they can regulate only a few subordinates, and their span of control is curtailed. At the same time, when subordinates have simple jobs the repetitiveness and predictability of the tasks produce more simplicity in work demands for supervisors. In this manner, the subordinates' activities are technological determinates of supervisors' jobs.[22] And these technological demands influence the complexity of administrators' jobs, which in turn affects their spans of control.

CONCLUSIONS

Our efforts have been directed toward an analysis of three determinants of span of control. Data were collected from 186 employees in a small community hospital. Findings suggest that the more complex the tasks subordinates perform the smaller *will be administrators' spans of control*. The data further indicate that closeness of supervision is unrelated to span of control. Evidently, even though an administrator is keeping a close rein over his subordinates, this does not restrict the number of employees he can oversee, and/or when supervisors control only a few subordinates they will not necessarily do so in a close manner. It is also possible that this lack of association could be due to the fact that administrators who desire to closely regulate their charges might do so, to a large extent, by using rules and regulations. If this is the case, then supervisors could control many subordinates with rules and not have their time consumed by supervisory efforts, and could then control more subordinates.

The final relationship suggested by the data is that the more complex the administrators' tasks the fewer are the subordinates they regulate. These findings raise some rather intriguing questions. For example, if job expansion produces small spans of control, are skill levels, motivation, and efficiency, at the same time, increased? As the spans of control are delimited, are the number of levels of authority increased? If the latter proposition is true, then what happens to communication, coordination, and, finally, motivation and efficiency?[23]

Further relationships between job com-

[22] There was little association between supervisors' task complexity and closeness of supervision. (Kendall's T rank-order correlation is $r_e = -.19$, $P < .21$.) Evidently, administrators, if so inclined, can closely supervise their subordinates regardless of the complexity of their tasks

[23] See Paul R. Lawrence and Jay W. Lorsch, *Differentiation and Integration in Complex Organizations* (Cambridge, Mass.: Division of Research, Harvard Business School, forthcoming)

plexity and factors, such as degree of coordination required for the efficient completion of subordinates' duties, geographical contiguity of employees, workers' competence, and number of supervisory assistants which are assigned to an administrator, should be examined in order that we might establish a systematic framework upon which appropriate levels of span of control might be based in order to maximize organizational efficiency. If such a framework were to be developed, it would be possible to weigh the variables according to their contribution to span of control and thereby to formulate a "span of control index" for administrative positions within organizations. We would assume that an appropriate matching of given levels of span of control to the situational and technological demands would produce optimal levels of efficiency of operations, holding other factors constant.[24]

UNIVERSITY OF NORTH CAROLINA

[24] See Harold Stieglitz, "Optimizing Span of Control," *Management Record*, XXIV (September, 1962), 121-29.

COMMENTARY AND DEBATE

Rejoinder to "Social Class and Church Participation"

Professor Erich Goode's article, "Social Class and Church Participation," appearing in the July, 1966, issue of this Journal appears to have overlooked or misinterpreted the implications of some research that I and some others have reported.[1]

Goode was concerned to show that by controlling for the amount of participation in voluntary organizations outside of the church, one reduced the (*sic*) positive relationship between social class and church participation. The basic points of contention between us concern the *meaning* of such positive relationships between social class and church participation as have been reported in the literature, and which Goode shows in his own data, as well as the existence of negative relationships which I reported.[2]

That report began by citing several studies which showed that church members have higher social class (on average) than non-members. It also cited studies showing positive relationships between class and church attendance in samples that contained *both* members and non-members. After controlling for membership, however, this positive relationship was attenuated to near zero.[3]

It seems clear that when non-members are included with members and a positive relationship is found between social class and church attendance, this relationship can be attributed to the low average social class of the non-members in conjunction with the fact that, being *non*-members, they seldom or never attend church.

Re-analysis of data from several studies showed that among *members of the same denomination* there was a moderate to strong *positive* relationship between social class and church attendance, but *between denominations* there was a moderate to strong *negative* relationship.[4] These two opposed relationships tended to cancel one another; so that when denomination memberships were not controlled or used as units of analysis, and the relationship was measured among all of the individual members, then the over-all relationship was near zero.

I concluded that there are *several different relationships* between social class and church attendance. Each is valid, but each has a different meaning; and whether an investigator reports a zero, a positive, or a negative relationship (or some combination) depends largely upon the kinds of questions that the respondents were asked (or not asked) and the kind of controls employed in analysis.

Goode and I cited three studies in common (Lazerwitz,[5] Bultena,[6] and Burchinal[7]). My re-analysis of data from these

[1] Erich Goode, "Social Class and Church Participation," *American Journal of Sociology*, LXXII, No. 1 (July, 1966), 102–11.

[2] Harry C. Dillingham, "Protestant Religion and Social Status," *American Journal of Sociology*, LXX, No. 4 (January, 1965), 416–22. Since his data and mine are restricted to Protestants, it may be well to keep this in mind.

[3] *Ibid.*, pp. 418–20.

[4] The between-denominations relationship was measured by determining an average social-class position and an average rate of church attendance for the members of each denomination; these two figures (for each denomination) were then correlated among all of the denominations.

[5] Bernard Lazerwitz, "Variations in Church Attendance," *Social Forces*, XXXIX (1961), 301–9.

[6] Louis Bultena, "Church Membership and Church Attendance in Madison, Wisconsin," *American Sociological Review*, XIV (1949), 384–89.

[7] Lee G. Burchinal, "Some Social Status Criteria and Church Membership and Church Attendance," *Journal of Social Psychology*, XLIX (1959), 53–64.

studies revealed that in each study there was a *negative* relationship between the denominations. Spearman rho's ranged from $-.60$ to -1.0.

Of these studies and my re-analysis of them, Goode says:

> An attempt has been made to "integrate" the contradictory findings of a positive and negative association between them. . . . Since the relationship is, according to my own survey of the literature, overwhelmingly found to be positive, no such procedure appears to me to be necessary.[8]

Goode cited eight studies as evidence, but he, himself, noted that two of them were "exceptional" because they did not show a positive relationship. This leaves six, but at least one of these was solely concerned with the positive relation between social class and being a church member. And, as indicated above, my article made a special point that class and membership were positively related. This leaves Goode with five cited studies that could support his contention that the evidence is "overwhelming," and the relationship is "positive."

It is also to the point, however, that the articles I chose to cite are well known and frequently cited in the literature. For example, the author of a recent monograph on our topic, Demerath, has commended both Bultena and Burchinal for their *superior* use of controls.[9] They had controlled for *membership* and obtained relationships approaching zero.

I have described my article in this detail because Goode said in the abstract of his article that, "Although several attempts have been made to test this relationship for spuriousness, *no effort has been successful*" (emphasis added). And, when an abstract contains a sweeping statement such as this, the reader, not to mention the "unsuccessful" testers, can legitimately anticipate that the author will "show cause" in his text. (Give us *substantive* criticisms; not ". . . my own survey of the literature, . . .")

Since I reject his criterion for dismissing these studies and my re-analysis of them, I propose to bring their conclusions to bear on Goode's own research. That research consisted of re-analyzing the data from two samples; one was a sample of the Appalachian region. The core data from that sample are presented in Tables 1 and 2, which are reproduced here as they appeared in his article (as Tables 3 and 4).

The left section of these tables shows that, when his sample population is divided into high and low categories of education or occupational type, there is a positive relationship between each of these indexes of social class and each of his several indexes of church participation. The remaining two sections show what happens after controls for "non-church activity" are applied. The differences between the educational categories with respect to the percentage of each who are "actively" participating in church activities has been reduced in each of the two control categories. This is the support that Goode presented for his hypothesis that controlling for participation in non-church activities would reduce the positive relationship that exists between social class and church activity.

But let us look at these last two sections of the tables in a slightly different light. Let us use his control variable, non-church activity, as a supplementary index of social class.[10] Then in the middle section of Table

[8] Goode, *op. cit.*, p. 102.

[9] N. J. Demerath III, *Social Class in American Protestantism* (Chicago: Rand McNally & Co., 1965), pp. 10 and 12. Goode is not well justified in dismissing such studies solely on the grounds of their *uniqueness*.

[10] Both Goode and Lazerwitz found social class *more highly* correlated with *non*-church organizational activity than with church activity. For Lazerwitz see his paper: "Religion and Social Structure in the United States," in Louis Schneider (ed.), *Religion, Culture, and Society* (New York: John Wiley & Sons, 1964), pp. 434–35: "Clearly frequency of church attendance is sluggishly associated with social status when contrasted with number of memberships in voluntary associations."

This points up a serious, conceptual oversight in Goode's analysis. For if some variable (education) can be regarded as an adequate, opera-

1 we are comparing persons who are the lowest on *two* indexes of class with those who are low on one but high on another. The category which contains those who are

tional measure of some concept (social class), and if this variable is in turn found to be strongly, positively related to a second variable, non-church activity, then non-church activity, itself, can be an adequate, operational measure of the same concept, social class. Then it is very predictable that any original, positive relationship between education and church activity will be *reduced* by "controlling" for non-church activity. This is not a "control" in the conventional sense of the term but simply a reduction of the *ability* of "education" to "predict" church activity. Goode did not show that he had thereby "reduced" the "positive relationship" between "social class" and "church activity"; he simply showed that he could no longer *measure* it as well as he could before "controlling."

TABLE 1

PERCENTAGE "HIGH" IN CHURCH PARTICIPATION, BY EDUCATION: APPALACHIAN SAMPLE

	Disregarding Non-Church Activity		"Low" Non-Church Activity		"High" Non-Church Activity	
	Grade School	High School	Grade School	High School	Grade School	High School
Church attendance......	43	63	38	49	58	71
Church associations....	27	50	21	39	46	56
Church contributions...	37	53	32	38	53	62
All church meetings....	34	47	29	35	47	54
Lord's Supper.........	45	66	39	55	63	73
All religious activities..	21	29	18	18	30	35
Church leadership . .	33	54	27	45	50	60
*N**..........	*511*	*567*	*380*	*208*	*125*	*355*

Note.—Indicator for a "high" level of church participation: church attendance once a week or more, church associations. three memberships or more, church contributions. one hundred dollars or more given in the past year; all church meetings one hundred or more attended in the past year, Lord's Supper. partaken at least once in the past year, all religious activities: six or more in the past week Indicator for non-church activity "low" attended no meetings of non-church organizations in the past year, "high": attended at least one meeting of non-church organization in the past year

* *N*'s for all of the following tables vary somewhat due to non-response.

TABLE 2

PERCENTAGE "HIGH" IN CHURCH PARTICIPATION, BY OCCUPATION:* APPALACHIAN SAMPLE

	Disregarding Non-Church Activity		"Low" Non-Church Activity		"High" Non-Church Activity	
	Blue Collar	White Collar	Blue Collar	White Collar	Blue Collar	White Collar
Church attendance......	49	77	40	65	62	82
Church associations.....	39	56	27	46	55	60
Church contributions...	44	67	38	53	53	73
All church meetings...	38	61	29	54	50	64
Lord's Supper.........	51	80	41	71	66	84
All religious activities...	20	45	15	36	27	49
Church leadership	41	64	31	54	54	69
N.................	*522*	*254*	*295*	*78*	*223*	*176*

* Farmers were eliminated because of their ambiguous occupational status They were not eliminated from the education table because they could be arranged educationally. *N*'s and percentages in the two tables do not match perfectly, therefore.

low on both indexes should contain the majority of all the sample respondents who were *not* church members because people who are not church members tend to be concentrated in the lowest class. Three hundred and fifty-nine of his 1,078 respondents were *not* church members. And, if the "low-lows" include most of the non-members, their rates of participation in church activity *should be* low. They are.

The right-hand section of Table 1 must be approached from a still different viewpoint; for, probably through an oversight, Goode retained seventy-one ministers in his sample.[11] There is good reason to believe that most, if not all, of them would meet the criteria of having attended at least *one* non-church meeting in the previous year, as well as having *some* high school education. If all of them met these criteria, then they are in the right-hand column of the right-hand section of Table 1. Their influence can be removed by recalculating all seven percentage figures in that column. From top to bottom these figures become: (1) 64, (2) 45, (3) 53, (4) 43, (5) 66, (6) 19, and (7) 50.

Adjusting for the new N of 284, we have found that the direction of differences between the last two columns has changed. There is now a *zero* relationship between social class and church participation.

Table 2 (his Table 4) shows similar trends, but the fact that he excluded some three hundred farmers from this table means that the seventy-one ministers may now be a solid 40 per cent of the "white collar" and "high" non-church activity category. Their removal from this data results in the following recalculated figures for the last column on the right (from the top to bottom row): (1) 70, (2) 33, (3) 55, (4) 40, (5) 73, (6) 14, and (7) 48. The relationship in this section has also changed from positive to *zero.*

[11] Dr. Earl Brewer, who supplied these data to Goode, shows the 1,078 sample members to contain seventy-one ministers in Table 4 of a set of tables he passed to the audience at a program at Vanderbilt University, March 31, 1962. Fortunately, I attended.

My article noted (in three places) that the *inclusion of non-members* would produce a positive relation between class and church attendance. Goode's data support this in the middle sections of Tables 1 and 2. But my own article also noted that among *members,* and in the *absence of denominational controls,* this relationship would tend toward zero. Goode's data now show exactly this zero relationship in the right-hand sections of Tables 1 and 2.

To be sure, he analyzed another sample, this one containing only Congregationalists. His own analysis of this sample produced results that can only be called trivial.[12] He himself noted "that the differences in church activity among the class levels is smaller than is true of the general population."[13] He attributes this to their simply being "church members," and implies that they are therefore more homogeneous than the general population. This is incorrect as a reason and, if he will consult my article again, or Lazerwitz', he will find evidence for considerable "difference in church activity among the class levels" *within each denomination.*

The lack of difference which he found is more reasonably attributable to the fact that 50 per cent (or more) of his original sample *refused* to participate in the study; therefore, his data come from that minority of Congregationalist members, self-selected by virtue of their relatively higher interest in the affairs of their church and/or religion in general.

His data can be used, however, to make a test, albeit crude, of the hypothesis that there are negative relationships *between* denominations. This test can be made because Goode's data show his sample of Congregationalists to be very much higher in average social class than the Appalachian sample.

[12] Goode, *op. cit.*, p. 107. Having criticized Rodney Stark, who had done a study very similar to his own; because "The differences between the levels of church attendance of the two occupational levels . . . are actually quite small," Goode's differences appear to be equally as small.

[13] Goode, *op. cit.*, p. 107.

Goode insists that relationships between class and church participation are *positive;* therefore, he should predict that the high-classed Congregationalists would have, on average, higher rates of church participation than those in the Appalachian sample. But *his* data *do not* show this. Rather they show a great *similarity* in rates of church participation.

The interested reader will want to consult Goode's Tables 5 and 6 to compare with 3 and 4. He will note that the Congregationalists were counted as "high" church attenders for attending church as much as 25 per cent *less* often than the Appalachians. In other words, their rates were *inflated* in comparison with the Appalachians.[14]

Remembering that the Appalachian rates of church attendance were *deflated* by the inclusion of 359 (one-third of the sample) *non-church members,* the conclusion is inescapable that *among members* these data would show a *negative* interdenominational relationship between class and church attendance, if their rates were based on comparable measures.

In summary, Goode has: (1) dismissed studies *because* their findings did not agree with majority findings of a positive relationship between social class and church participation; (2) overstated the degree to which such positive relationships were in the literature; (3) ignored evidence that the control for church membership radically reduced any such positive relationship among the members, when they were treated as individuals; (4) retained ministers in his analysis of voluntary participation in church activities (in an important subsample, there may have been 40 per cent ministers); and (5) overlooked evidence of an interdenominational *negative* relationship in his own data.

I have not mentioned his major hypothesis and conclusions because they were not directly involved in our point of contention.[15] Criticizing some research by Bernard Lazerwitz, Goode concluded, "*Descriptively,* of course, his position is upheld by the data presented; analytically, however, no thesis is either supported or refuted by his tests."[16] Of Goode's own research, I must conclude that *descriptively* his position is not upheld by the data presented; analytically, however, my thesis is supported and his is refuted.

HARRY C. DILLINGHAM

University of Cincinnati

[14] The Congregational data contain three measures of church participation, but only one, church attendance, is defined so as to permit some comparison with the Appalachian data.

[15] Goode, *op. cit.*, p. 111: "It appears that church activity has become secularized to such an extent that it can be subsumed, at least partially, under general associational activity."

[16] *Ibid*, p. 105.

LETTERS TO THE EDITOR

Comment on a Review of Hendry's *Small World of Khanh Hau*

It is generally assumed that reviewers read the books they are going to review. Especially when the reviewer has neither firsthand knowledge about the subject and area his victim has discussed nor an overview over the existing literature, but nevertheless wants to assert that the book under review does not advance thinking on its topic "in any significant way," at least careful reading could be expected. This is apparently not the case with Mr. Baidya Nath Varma's review of Hendry's *Small World of Khanh Hau.*[1] The research in Vietnam on which this book is based was carried out in 1958-59 (not during 1957-59, as Varma notes) by a Michigan State University advisory group.

Contrary to Varma's statement, the other members of the group have also published their respective studies on Khanh Hau: L. W. Woodruff on village administration in 1960 and Gerald C. Hickey on social and religious organization in 1960 and 1964.[2] Both the earlier works have been cited by Hendry. How Varma, without having seen these other studies, can allege that "*The Small World of Khanh Hau* portrays more the smallness of vision of this team of social researchers than the world of the average Vietnamese of this era" remains unclear and arouses serious doubts about his own scholarly competence.

Hendry's book is certainly not without flaws and is perhaps not so exciting for sociologists as Hickey's *Village in Vietnam*, but considering the scarcity of recent material on Vietnam, the difficulties in doing research under the present political conditions, and the unreliability of government publications and statistics, it has to be regarded together with its companion volumes as an important addition to our knowledge of Southeast Asian societies and of societies under stress in general.

HANS-DIETER EVERS

Yale University

[1] James B. Hendry, *The Small World of Khanh Hau* (Chicago: Aldine Publishing Co., 1964), reviewed by Baidya Nath Varma in the *American Journal of Sociology*, LXXII (1967), 422-23.

[2] L. W Woodruff, *The Study of a Vietnamese Rural Community—Administrative Activity* (Saigon: Michigan State University Vietnam Advisory Group, 1960); Gerald C. Hickey, *The Study of a Vietnamese Rural Community—Sociology* (Saigon: Michigan State University Vietnam Advisory Group, 1960); and Gerald C. Hickey, *Village in Vietnam* (New Haven, Conn., and London: Yale University Press, 1964).

BOOK REVIEWS

Untapped Good: The Rehabilitation of School Dropouts. By NORMAN M. CHANSKY. Springfield, Ill.: Charles C Thomas, 1966. Pp. xviii+267. $9.75.

This is a very nice story. Obviously written by a very nice guy. The author's goals are clear and certainly laudable. He believes that we can and should provide school dropouts with the skills, motivations, and tools required for entrance into the good life.

Specifically, this is a report on Operation Second Chance, a federally sponsored training program conducted in North Carolina. Data are presented which indicate that you can rehabilitate some of the people some of the time, but not all of the people all of the time.

The author is bound to lose the hard-nosed, empirical, non-sentimentalist researcher by his dependency on schmaltzy phrases such as, "Share with us the joys of the trainee who is reborn; understand the striver who fails; know the indifference of the recruit who values neither money nor a good name."

No matter, it is a story worth telling.

DAVID GOTTLIEB

Office of Economic Opportunity

Negroes and the New Southern Politics. By DONALD R. MATTHEWS and JAMES W. PROTHRO. New York: Harcourt, Brace & World, 1966. Pp. xvi+551. $12.50.

This book will certainly receive much attention among sociologists as well as political scientists; it will arouse controversies between those who aspire to making their discipline "scientific" and those who regard these aspirations with skepticism. The theme is "political participation" of Negroes in the South; to what extent, in what ways Negroes are politically active, what are the conditions that favor political participation, and what factors, personal or social, are unfavorable. Finally, what are the impacts of Negro political participation on Southern politics.

The data are derived from a South-wide sample survey of Negroes and whites conducted by the Survey Research Center (Michigan), from intensive study of four typical communities and from interviews with Negro college students; aggregate data from the U.S. Census of Population and other sources have also been used. The authors pride themselves in having assembled "perhaps the largest collection of systematic data on Negro political behavior ever compiled" (p. vii), and the publisher boasts that "in depth and significance this work will be compared to Gunnar Myrdal's famous American Dilemma."

Certainly the authors deserve praise for their industry, thoroughness, and sophistication in research techniques. By using Negro interviewers, trained by the SRC for interviewing Negroes, one of the major pitfalls of survey work in the South was presumably reduced to a minimum. The survey data are skilfully squeezed to the last drop of information, and every major problem is introduced by significant observations from the four selected communities. These represent variations in local conditions from the very unfavorable (to Negro political activity) to the very best. The authors felt obliged to conceal the identity of these communities and thus deprived the reviewer of the possibility of evaluating important parts of the findings. On the other hand, persons familiar with the region should have no difficulty in identifying the localities by combining the many clues given in the text—which makes the references to "Crayfish County" and other mythological places rather futile.

The findings are too numerous to be critically reviewed here. Many of them merely confirm or refine previously existing knowledge. The presentation suffers from a lack of elegance and often from "talking down" to the reader. For example, was it necessary to explain in great detail that a "high concentration of Negroes" per se could not result in a low rate of political participation? The real explanation, that areas with high percentages of Negroes in the population are typically

plantation areas where the white minority—far from being "fearful"—does everything in its power to prevent Negroes from "participating in politics" is not even mentioned.

The absence of any geographic or ecological approach is one of the most remarkable features of this study; the other, that no use whatsoever is being made of election returns.

A central problem is the relative importance of individual and social community characteristics, on the one hand, and political and legal conditions, on the other hand, for the political participation of Negroes. The authors attempt to determine this by correlating these three groups of characteristics with a score of political participation. The basic assumption is that "expected" degrees of political participation can be computed from correlations with socioeconomic and individual characteristics and that differences between expected and actual participation measure the effects of political factors (such as application of voter registration tests). This technique appears to be flawless from a purely technical point of view. However, the "expectations" are based, in part, on such "non-political" factors as degree of concentration of Negroes, which are not truly independent variables but, rather, part and parcel of the "political" situation whose influence is to be measured.

In a study where so much weight is attributed to "attitudes and cognitions" of both whites and Negroes, the credibility of responses becomes a crucial matter. In a tense situation as it exists in many parts of the South, fear is likely to exert a not negligible influence on responses from whites as well as Negroes. In the case of the latter, the tendency to give the kind of answer they believe is wanted adds to the uncertainty of the degree of credibility. This, at least, is the opinion of those who have had ample experience in interviewing Negroes. Therefore, it seems doubtful whether it was justified to drive the statistical analysis of survey data to such a fine point as in this study.

Rudolf Heberle

Baton Rouge, Louisiana

The Human Perspective in Sociology: The Methodology of Participant Observation. By Severyn T. Bruyn. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966. Pp. xviii+286.

Great theological or scholastic traditions are passed on through holy books, texts, or theoretical formulations. Little or folk traditions are passed on by example and word of mouth. Many great teachers—from Socrates to George Herbert Mead—have ignored this rule. Indeed, the school of sociology at the University of Chicago comprised a succession of extraordinary teachers, who, for some three or four generations, transmitted a great tradition in the study of man and society without the aid of a single notable written work in pure theory.

Professor Bruyn has made a brave and worthy attempt systematically to describe the history, philosophical background, and human perspective of this school and to relate these phenomena to current theory, method, and technique. For me, the prime value of his work lies in the fact that it so accurately reflects the point of view and approach of the tradition it, in turn, attempts to transmit. It is not a catechism or a manifesto. It does not pretend to be perfect, complete, or final. It is almost never ponderous, dogmatic, or obscure In consequence, it stimulates the interested and creative student. On every even page there is something to question, qualify, or elaborate. But on every odd page there is a beautifully forthright discussion of a point or concept which I had never before gotten quite straight; or an extraordinary, illuminating example of some important process or social situation. All in all, the book is worth more than its price to any teacher or research worker who wishes to help his students along the rough path of appreciating what goes on among themselves, the people whom they are supposed to be "observing," and the work they are supposed to be doing, and who wishes to help them place their own and other people's experiences and research within a useful philosophical and theoretical framework. For good measure, it will help him interpret some of his own field experiences to himself.

Perhaps I can communicate other of Bruyn's strengths and weaknesses by a few critical remarks. (1) When he uses Durkheim as the archetypological example of the experimental behaviorist, he ignores the striking similarity between his own "cultural universals" and Durkheim's "collective representations." The fact is that the experimental behaviorists have claimed Durkheim as a tribal elder, partly, I suspect, because they are so impressed by his

study of suicide. If they understood Durkheim in the round, they might strike him off their rolls. (2) I cannot agree with Bruyn (p. 200) when he refers to the principles and procedures of participant observation as "primitive." The principles and procedures of man's behavior as a human or social being probably represent man's most complicated, sophisticated, and civilized achievement. It is our conscious awareness and understanding of these—of exactly what goes on when we (or any human) become adept at participating and observing—that are still in a relatively primitive state. (3) Bruyn gives insufficient attention to the British social anthropologists, some of whom performed almost incredible feats of participant observation, even though their philosophy, theory, and method are rooted in a different academic tradition. (4) Bruyn does not sufficiently emphasize that participant observation (like living) involves unavoidable error, clumsiness, embarrassment, and suffering. It is all very well to tell a student that "he must take into account the levels of power and decision making extant in the group he studies before he makes his overture to become part of the group" (p. 204). But, if the student already knows who or what controls the people he wishes to "join" and precisely whose interests his presence and activities will threaten, he may not need to do the study.

ROSALIE H. WAX

University of Kansas

Slums and Community Development: Experiments in Self-help. By MARSHALL B. CLINARD. New York: Free Press, 1966. Pp. xvi+395. $7.95.

The outstanding characteristic of the vast current literature on community organization is the abundance of recipe and opinion in contrast to the lack of solid research on the processes of organization. Clinard's book, while hardly free of prescription, also contains a substantial research effort.

After rehashing the Chicago school of urban sociology and introducing the reader to slums around the world—Clinard claims that there are more cross-cultural similarities than differences in slum life—Clinard gets to his purposes, describing a community development project carried out in the Indian slums of Delhi and Ahmedabad using Ford Foundation money. "Community development," as Clinard uses the term, is a form of community organization centering on the idea of "self-help." Paid organizers were used to promote the formation of *vikas mandals* (block clubs), which undertook a wide variety of projects, most of them subsidized with money from the foundation grant. The term "self-help," however, should be interpreted with caution, since Clinard's account implicitly points to the professional organizers as the single most important influence on decision making in the *vikas mandals*.

Clinard evaluates the project in formal terms in chapters x and xi. Unfortunately, these chapters read with all the lucidity of computer printout in prose form His analysis shows, not too surprisingly, that the level of participation in the organization is positively correlated with literacy and negatively correlated with group size. Other variables appear not to be related to participation or show highly inconsistent patterns with regard to direction Clinard's use of a shotgun stepwise regression procedure in his analysis (see Appendix B) is indicative of the generally low level of theory in this applied branch of sociology. The term "experiments" in the title of the book should not be taken too seriously Although Clinard mentions that two somewhat different methods of organization were used in different communities, the difference in procedure does not enter the formal analysis as a variable.

Clinard's recipe for successful organization is presented in the last section of the book. Not surprisingly, it is centered on the notion of self-help, *but with the proviso that the government be part and parcel of the process.* (The Indian project was carried out with the aid and co-operation of municipal authorities.) This insistence by Clinard simply raises once more the old problem of the relationship of government to community organization: what happens when the local group decides to oppose the existing authority? Clinard does not address this question. Perhaps he assumes that the goals of the organization and the government will always be in harmony, and the influence of the organizers on organizational decision making might, under Clinard's model, make this assumption viable.

Finally, a question for which this reviewer has no easy answer. Clinard's organizers come

off as agents of value change, and the values to be changed stem from the religious heritages of the people. (See especially the sections on the participation of women in the organizations.) In a sense, the organizers become a new breed of missionaries. Yet they lack a Macedonian call from the slum dwellers, and their desire to change the values of the community is never made explicit. In contrast, the old-fashioned missionaries were highly explicit in their purpose of value changing. What approach is ethical in this situation? Some searching thought should be directed to this question

SAMUEL A. MUELLER

Northwestern University

Modernization: Protest and Change. By S. N. EISENSTADT. Englewood Cliffs, N.J.: Prentice-Hall, Inc, 1966 Pp. ix+166.

Modern social science is based to a great extent on ideas and information growing out of classical social theories of change. The nineteenth-century theorists are important contributors to our knowledge not because they were precise or even correct—their theories were often wrong and frequently untestable. Their value lies in the fact that they raise large questions and suggest directions for social science research.

Although the grandiose single-factor theories of Spengler, Maine, Spencer, and Marx have usually been either untestable or discredited, their thinking has pointed the way toward empirical investigation of the process of change. Contemporary social scientists recognize that change can originate in any institutional area: demographic, educational, economic, political, or ideological. Furthermore, they are able to identify some of the more specific attributes of change situations with far more precision than were their theoretical forebears. For example, social scientists know that the more heterogeneous the society, the more likely social change is to occur. This statement means that change occurs more frequently within an open class than within a caste, more frequently in voluntary associations than in clans, more frequently in urban environments than in rural ones. The more different points of view available and the more groups with conflicts of interest, the more likely is change.

A corollary is that the more any given change seems to pose a threat to traditional cultural values, the greater will be the resistance to it. People are particularly likely to resist changes that they see as forced upon their group or society by outsiders. As armies of occupation know (and as Americans have seen in the case of Office of Education guidelines for desegregation in the Deep South), changes that seem to be imposed from the outside are likely to be greeted with overt compliance and covert resistance.

When people want change, however, they can absorb massive alterations in the fabric of their society with minimal difficulty. Change requires adjustment and is, to some extent, necessarily hard on people But people often do accept change with alacrity when it will demonstrably make life more secure (polio vaccine), less costly (nylon instead of silk hose), easier (electric refrigerator), or more fun (television).

Eisenstadt tries to address the question of what conditions enable a society to develop an institutional framework capable of absorbing the changes inherent in modernization. As is suggested by his choice of the term "modernization," his analysis is weighted toward a focus on political structure After describing the basic characteristics of modernization, Eisenstadt examines the problem of sustaining growth. He looks for patterns in the process, describing western Europe and the United States, comparing France and Italy, then Germany and Russia. After analyzing modernization under a revolutionary oligarchy in Japan, he moves on to the second phase of the process in Latin America, the Communist regimes, and the formerly colonial societies.

He concludes that protest orientations are inherent in the process of modernization. While no society will move toward modernization without some minimal degree of social mobilization and structural differentiation, the presence of these characteristics alone does not assure sustained growth. The critical variables Eisenstadt identifies as determinants of breakdown or of sustained growth are ideological transformation and cohesion among elites, the nature of the relationships between elites and other strata, and the structural flexibility of the society.

Here is a provocative primer for the sociologist concerned with intersocietal comparisons.

On page after page we find tentative theoretical generalizations worthy of examination in an empirical dissertation. When we are able to make probability statements with some precision about many of these propositions, the social sciences will have come a long way toward comprehending the processes of economic development and political change.

RAYMOND W. MACK

Northwestern University

Empirical Social Research in Germany, 1848–1914. By ANTHONY OBERSCHALL. New York: Basic Books, 1965. Pp. viii+153. $5.75.

Oberschall has compiled a wealth of informative material on the history of social research in Germany, starting with the 1875 national survey of the effectiveness of legislation on working conditions in factories. The question of the working class remains the predominant theme throughout the period under review up to and including Marie Bernays' study of women textile workers and Max Weber's essay "Zur Psychophysik der industriellen Arbeit." But there are studies in a variety of other fields too, such as leisure activities and mass communication by Walter Hofmann, Emilie Altenloh, and Hjalmer Schacht; crime and delinquency by Ferdinand Tönnies and Othmar Spann; voting behavior by R. Blank; and elite studies with special emphasis on the then puzzling question of the relative importance of heredity and environment. Oberschall reports the use of research techniques ranging from questionnaire surveys and participant observation to early versions of content analysis.

Rather than dealing with these "data" in a manner customary in social research, by developing a conceptual system for organizing them, the author does the very thing which he rightfully deplores about German social research before 1914: he largely presents the material in a narrative and anecdotal but unsystematic fashion. Sociology being an empirical science is not possible without social research. But, likewise, a history of social research cannot be divorced from the history of sociology. Oberschall points out that there was very little institutionalized sociology in Germany at the time. The studies he reviews and the findings on which he reports show social research as being quite well developed under the circumstances. Yet in his brief "Conclusions," the author voices disappointment that there was not more empirical research and that it was not more systematic.

The merit of this dissertation lies in the fact that it contributes to the necessary task of sociologists to study the history of their science.

HORST J. HELLE

Universität Hamburg

The Managerial Revolution in Higher Education. By FRANCIS E. ROURKE and GLENN E. BROOKS. Baltimore: Johns Hopkins Press, 1966. Pp. viii+184. $8.00.

The authors (both political scientists) apply the term "managerial" to the use of computers in university and college administration, the presence of offices of institutional research, and the use of quantitative methods in budgeting and in the utilization of university space. The interest is in how widespread such instruments are and what impact they are having on college decision making and organization. The first question—distribution of practices—is explored through a questionnaire sent to all four-year state-supported colleges and universities in the United States (there were 361 such places listed in the 1963–64 *Education Directory*), thirty-six non-state public institutions, thirty-six private institutions, and ten statewide co-ordinating boards. The authors report an 80 per cent response rate (though unusable portions of the questionnaire are reported for 10 per cent of the cases). Data on impact on the university (the second question) were secured through 209 interviews at thirty-three colleges and universities and central governing boards, selected partly to be representative as to size and region and partly because some exhibited "especially interesting developments at the frontiers of managerial change."

This extensive-intensive approach, which forms the basis for the structure of the whole book, though sounding like the best of both research worlds, in fact is the source of a disturbing tension throughout the book. For example, a major part of the discussion deals with areas of computer application. The questionnaire survey showed that "53% of all state institutions of higher education were using

computers for administrative purposes." But these purposes turn out to be quite trivial—for example, "student affairs" leads the list, and they turn out to be mostly cases where "the computer is used simply as a machine to record returns from the advisors and sectioners who work their way through the familiar long lines of students in the campus gymnasium." Recognizing that that hardly constitutes evidence for a "managerial revolution," the authors hint of much more extensive developments yet to come, but now only present in a few places, "notably Purdue and the University of Massachusetts." And what are these portents of the coming revolution at those places? "An IBM 7090 begins the task of sectioning, making sure that the student has time out for lunch, employment, or other necessary activities. If a particular section is full, the computer rather than a human sectioner revises the student's schedule to place him in another section of the same course." As one of those students might well say, "Big deal."

And so it goes, with data on how many places have offices of institutional research, which have shifted from "object" to "program" budgets, which use quantitative formulas (such as staff-student ratios), and which use cost analysis. But just as one's irritation with the parading of such changes as "revolutionary" begins to rise, the authors themselves deftly and quickly record their own skepticism of the significance of such changes, and do so by citing their impressions from the interview part of the study. For example, after calling changes in budgeting practices "modern" and even "scientific," they point out those they interviewed recognized that such measurement did not affect university goals in any significant way, that formulas were continually upset by administrative responsiveness to questions of equity and the realities of the marketplace, and in any case, outside pressures (e g , from state governments) are quite as much responsible for such changes as is any desire from within to be "scientific."

For the case of computer applications, the discussion shifts suddenly to the much more significant question of whether computer use dehumanizes administrator-faculty or faculty-student relationships. After citing the usual claim that the computer, in taking over drudgery, "frees" administrators and faculty for personal contacts, the authors go on to report that, actually, that simply does not happen. Rather, computers lead to more computer applications, which use up any time gained Or, since computers give figures, those students who are *clearly* in some numerical category (e g., score high on admission tests) receive routine letters of admission. It is then only the marginal students who may (if anyone does) get some personal attention.

Such a juxtaposition—survey results about minor matters followed by interview results about major matters—is a major feature of the book. And the trouble is that, as noted above, these two kinds of data were secured from different universities and colleges, and hence the people at the thirty-three places where they interviewed cannot be assumed to be talking about the 290 places where people filled out questionnaires, though the authors usually write as if this were the case.

One comes away from this book with a sense of the high usefulness of the work, but that sense is based almost entirely on the interview reports and the authors' perceptive interpretations of those interviews. Examples like those given already abound. For instance, after referring to data on the growth of federal support for research, they point out that such growth does not necessarily lead to increased administrative control, for much of the money goes to individual professors or departments and results in increased faculty autonomy Or, the authors show how computers, though widely dismissed as "mere tools" can, because of economies of scale, require centralization, thus forcing departments to reveal previously secret information on, for example, space utilization. And one of the best sections of the book is buried in Appendix C, which presents a general description of university administration in European and British Commonwealth countries, which description seems to be based mainly on the authors' reading of the literature. It deserves publication as a journal article to make it more widely available.

Two minor points made by the authors need mentioning because they are not limited to this book but are made by practically all writers in the area of university organization—and both are dubious or wrong. The authors repeat the incorrect (or at least unproven) claim that there is a direct relationship between size and bureaucratization or size and the power of administrators. Actually, the very data they cite

on European and Commonwealth universities show that, in spite of rising enrolments and all the rest, the administrators at those universities remain mostly weak (though there are signs of change) and the faculty (or state) powerful. Size and bureaucratization are related only if there is also functional differentiation, close supervision, and the presence of administrators who *seek* to increase their power. Also, size of university departments often has more to do with the nature of the field (historians specialize by time and region, social work departments by period of the life cycle, sociologists by theoretical and applied areas) and with the imperial instincts of their members.

The second dubious point is presented by the old chestnut that university scientists, who are "quick to innovate" in their own fields, are conservatives when it comes to changes in university practices. There is simply no evidence to support that claim, and it is time that this canard was demolished. First, university scientists are *not* so quick to innovate in their own fields—as William F. Ogburn used to say, the essence of science is suspended judgment, until the evidence is sufficient. As for resistance to changes in the university, I am sure that professors are no more resistant than members of factories, labor unions, hospitals, governmental bureaucracies, and other formal organizations. They resist what they think is not in their best interests and often what is not in the best interests of the students. The general complaint about their stodginess comes, of course, from administrators who accuse those opposed to the particular changes the administrators seek as being simply "opposed to change." Universities, like all organizations, are partly battlegrounds on which the rules and structure are often only the terms of a truce among the warring parties. Indeed the evidence gathered by Rourke and Brooks adds to the support that already exists for that generalization.

Edward Gross

University of Washington

The Captive Wife: Conflicts of Housebound Mothers. By Hannah Gavron. New York: Humanities Press, 1966. Pp. xiv+176. $5.00.

This book is part essay and part research report. The essay summarizes historical changes in the position of English women, and charts some moderate feminist proposals for the future. It is lucidly written and sound in its values, at least on familiar ground, and contains nothing new.

The research is an interview study of forty-eight working- and forty-eight middle-class wives, all residing in a London borough, born on or after 1930, and with at least one child under five. The working-class wives, drawn from the Group Practice lists in the area and approached with an introduction from the doctor, may have represented a more random sample than the forty-eight middle-class wives selected in various ways.

The picture of the working-class family emerging from this study is a far cry from the familiar portrayal as drawn, for example, by Young and Willmott. The "mum" no longer appears so dominant a figure within the extended family, and the conjugal tie is much closer. The husband shares domestic tasks and, contrary to American data, the involvement of the working-class father in the lives of his children is even greater than among the middle classes. The author reports that 54 per cent of the working-class couples, as compared to 21 per cent of the middle classes, "simply shared the housework between them, with no division into man's work or women's work." Again, only 27 per cent of the working-class husbands ever went out without their wives as compared to 48 per cent of the middle-class men. American studies reveal more differentiation in task allocation and a different pattern of class differences, but we cannot be sure whether research methods and definitions of class make the results comparable. Whatever the validity of the cross-national comparisons, Gavron's respondents frequently commented upon the differences between their own and their parental families, suggesting that some shift in the English patterns has taken place.

With the disappearance of "street life" within the stable neighborhoods, with lack of friends and means for going out, the working-class young family is quite home-centered and isolated. The middle-class young mother is more mobile, with a more active social life outside the home.

Despite the author's avowed aim to present a "qualitative rather than a quantitative" study, the book in fact presents a long series of tables in text form, citing percentages of

respondents who gave specified answers, frequently with illustrative quotes. But the questions of the interviewer seldom probed below the surface, and even the central problem of the study as stated in the title, *Conflicts of Housebound Mothers,* is not illuminated in depth. Had a section of the interview attempted to explore subtler phenomena, the small sample would have been justified, and the quantitative data might have been viewed as a useful by-product.

The main interest of the book lies in its portrayal of significant changes in the traditional English working-class family in the direction of the nuclear family and a stronger conjugal tie.

This book is based upon the Ph D. thesis of Hannah Gavron. The jacket indicates that the young sociologist died in 1966 at the age of thirty.

MIRRA KOMAROVSKY

Barnard College, Columbia University

W I. Thomas on Social Organization and Social Personality Selected Papers. Edited and with an Introduction by MORRIS JANOWITZ. Chicago. University of Chicago Press, 1966. Pp. lviii+311. $2.95 (paper).

Clarity of thought about man and social institutions, and the commitment with which ideas may be turned to problems of social organization, disorganization, and reorganization are found in these papers. The editor's Introduction makes an additional contribution by ordering the scope and grandeur of the work of W. I. Thomas and by placing the "Chicago school" in proper historical and intellectual perspective.

Thomas' logic that "social psychology and sociology can be embraced under the general term of social theory" is contained in Section I Set forth here are his conceptions of social organization as rules for conduct, social personality as the organization of attitudes in relation to values. Disorganization, then, is conceived as incongruence between the "social" and the "personal." Hence, the central focuses of sociology are at once change and control—seldom in perfect balance either socially or personally. Section II presents his orientation toward institutional analysis. Here are pointed out the potentials for change and control imbedded in what we might refer to now as "levels" of social organization: primary groups, community association, and "mass society." Thomas' specific contributions to social psychology are etched in Section III and include his theory of motivation, situational analysis, and analytic and social types of personality. The concepts to which concern with social change were linked—crisis, deviation, conflict, revolution, innovation, and assimilation—constitute the theme of Section IV. Finally, his (and Znaniecki's) methodological position and the ethic of the social scientist in the affairs of the social order close the book.

In its totality, the collection synthesizes one of the earliest comprehensive social science theories rooted in empirical observation.

Janowitz does the further service of pointing out the imprints Thomas made upon social science—ranging from strategies of research, symbolic interactionism, and social psychiatry to culture and personality, cultural ecology, the analysis of "modernization," and systematic theory To do this, the rapprochement between Thomas' work and that of his contemporaries in the several disciplines—spanning a half-century—is properly assessed W I. Thomas emerges as towering, and his contributions as fittingly included in "The Heritage of Sociology."

WILLIAM R ROSENGREN

University of Rhode Island

Social Problems: A Modern Approach. Edited by HOWARD S BECKER New York: John Wiley & Sons, 1966 Pp. viii+770. $8 95.

This volume is yet another collection of short monographs on a variety of "major social problems." In this case, there are fourteen of them, each "written by an acknowledged expert in the field" and collected as chapters which average approximately fifty pages apiece (the longest, on "Poverty, Inequality, and Policy," is some ninety-one pages; the shortest, on "Problems of Housing and Renewal of the City," is thirty-two). Other areas treated include the more usual problems of the adolescent and the aged; delinquency, crime, and mental illness; and race relations, population, and war. Striving also to include some which are "pressing public issues but have not been included in traditional texts of this nature,"

there are discussions of such interesting topics as the academic preparation of the increasing numbers of college-bound students; the question of whether "popular culture" is a problem or an asset (or both) in a pluralistic society; and the problems generated by changing social, political, and economic systems in new nations. The book contains both name and subject indexes, comes nicely jacketed, and contains a few illustrations by Lenord Bethel which are nearly suitable for framing. ((All above quotations are from the description on the book jacket.)

The very length of the volume precludes detailed review of its contents, except to comment with a general bow to the contributors that the chapters seem to be reasonably well and interestingly written (some more, some less, of course). They are, in general, informative, and frequently thought provoking and would, no doubt, be beneficial reading material for any college student. But there are other collections of articles on social problems of equal if not greater substantive quality (also by "acknowledged experts in their fields"), and so this one, as the others, is best judged in terms of the contribution of the editor.

Howard Becker offers two "new" elements to the field of social problems books (besides the title—is there no end to the number of titles which can be conceived to modify the term "social problems" in a different way?). The first of these is the frame of reference in which he considers the definition or meaning of a social problem. The second is the general organization of the book, which, one might suppose, would reflect the aforementioned frame of reference. In his Introduction, Becker first tackles the slippery question of just "What is a Social Problem," and does better than most in that he does not end up with yet another inadequate attempt to strictly define the strictly undefinable. Rather, he presents a strong case for the "non-definition" school which simply argues that "social problems come into existence by being defined as problems" (p. 9), and develops the theme that the nature and process of the *defining* itself is a significant element in the sociological understanding of the problem. Recognizing that an understanding of the history or development of the problem is vital ("how it came to be defined as a social problem" [p. 11]), he suggests, as an example, the insightful observation of Fuller and Myers (*American Sociological Review,* June, 1941) that every problem must go through three basic stages in its development; those of "awareness," "policy determination," and "reform."

At this point, one might hope that the organization of the book would reflect the socio-historical frame of reference ardently posited in the Introduction. To follow the Fuller-Myers model, for example, there might be some analytical value in grouping, into one section, problems which appear to be well into the "reform" stage, and so on. Indeed it is noted that each contributor to the book has "in one way or another" attempted to consider the "natural history" of each problem in the "beginning of his chapter" (pp. 13–14). Careful reading reveals that, for the most part, the various authors have taken the hint, or at least paid lip service to it. But there is no evidence that this approach (is this the "modern approach" suggested by the title?) serves as a theme for comparative and/or case analysis of the social problems presented.

As for the general organization of the book, editor Becker has yet another idea, one apparently unrelated to the frame of reference noted above. "We have chosen," he states, "to organize the problems we consider on a scale of increasing size of the group involved" (p. 28). And so, after all is said and done, there first appear some chapters on "life cycle" and "individual deviance," then some on "problems." Taken as a volume, one rich in social and sociological information and insight, it nevertheless suggests yet another problem to the user—how to explain to one's students why the whole thing is hung together as it is.

RICHARD LASKIN

Illinois Institute of Technology

Ethnic Stratification: A Comparative Approach. By TAMOTSU SHIBUTANI and KIAN M. KWAN. With contributions by ROBERT H. BILLIGMEIER. New York: Macmillan Co., 1965. Pp. xi+626. $7.95.

In 1952, Everett and Helen Hughes wrote that "it is an odd thing but a true one, that many of the people who are now studying racial and ethnic relations are doing so from an ethnocentric point of view. . . . They show little or no interest in the contacts of peoples outside the United States or at most do not get beyond North America."

To a considerable degree this parochialism has continued, and the bulk of sociological research and theoretical writing on "race relations" over the past fifteen years has been concerned with America's own persisting dilemma.

Of course, there have been exceptions. These are most evident in the works of such sociologists as the Hugheses themselves, Brewton Berry, Herbert Blumer, E. Franklin Frazier, and Richard Schermerhorn. Taken together, the efforts of the members of this "minority group" harken back to an earlier period. They are part of the legacy of Robert Park who had pioneered in the comparative examination of racial and ethnic contacts and was the first to suggest a processual paradigm for analyzing interethnic contact, competition, conflict, and accommodation.

The book under consideration is in that same tradition. Like Park and his colleagues, Shibutani and Kwan view "race relations" not as "social problems" but as social phenomena which exist *wherever* ethnic groups meet. And, like the Hugheses, they too seek to overcome the kind of ethnocentric biases which have become so prevalent in recent years.

To this end, the authors set forth "to formulate generalizations concerning the characteristics of various social processes and the conditions under which they occur, regardless of where they happen." The bulk of the volume is devoted to an elaboration of the processes themselves: "differentiating processes" (how "color lines" come into existence); "sustaining processes" (including patterns of adjustment and accommodation); "disjunctive processes" (dealing with tension and conflict, political tactics and the consolidation of power); and "integrative processes" (concerned with such matters as acculturation and assimilation). In the descriptions of these, the reader is offered many important insights into the nature of interethnic relations, particularly with regard to the issues of identity, social status, communication, and power. In fact, *Ethnic Stratification* contains a far more comprehensive (and up-to-date) treatment of these subjects than is to be found in any single text now available for classroom use. It also offers an antidote to those who are tired of the many books whose principle *raison d'être* seem to be "resolving social conflicts."

Nowhere is this last point more evident than in Shibutani and Kwan's denunciation of the overuse of the loaded term "prejudice" While offering no direct substitute, they do present an elaborate discussion of "Popular Conceptions of Ethnic Identity," dealing with such relevant issues as categorization, stereotyping, and ethnocentricity. Here, and in subsequent chapters, heavy weight is given to the relative positions of groups in the stratification hierarchies of different societies and to the differential meaning of subordinate status. "As incredible as it may seem to most Americans," they write, "systems of ethnic stratification are [often] upheld for long periods by the willing support and cooperation of the people who are being subjugated." Extensive examples and "natural histories" drawn from the world literature on interethnic contacts lend support to such generalizations.

These illustrations give the book its greatest strength. Ironically, they are also a source of its principal weakness: there is so much here that it is often difficult to see the theoretical bones for all the meat on them.

Put differently, the richness and variety of details offered in the nineteen almost self-contained chapters do not appear to be so readily reducible to a singular "Theory of Ethnic Stratification," so tightly and logically presented in the twentieth, as the authors imply.

To this reviewer at least, *Ethnic Stratification* must be seen—and read—more as an imaginative series of syntheses of where sociologists and social psychologists have been and what they have learned than as a definitive thesis for explaining the nature of racial and ethnic relations throughout the world. But this alone makes *Ethnic Stratification* a most useful text.

PETER I. ROSE

Smith College

The Wall Street Lawyer. By ERWIN O SMIGEL. New York: Free Press, 1964. Pp. ix+369. $6.95.

In examining the profession of law as practiced on "Wall Street," the author states he is concerned with the following problems and issues:

1. The applicability of the concept of bureaucracy to the large law firm
2. Do large law firms support the "charge" that bureaucracy breeds conformity and stifles creativity?
3. Are lawyers in large law firms "successful in their fight for professional independence"?

4. What is the degree to which a lawyer's individuality may be—or is—affected by membership in a large law firm?

5. What the the characteristics of work in the large and small law firms?

6. What are the consequences of size and location of large law firms for recruitment, and the law firm's structure?

7. What are the consequences for professional people who work in a bureaucratic situation?

In order to answer these questions, twenty large law firms were selected, each having fifty or more lawyers. While this constituted all the law firms in New York City having this attribute, not all the attorneys were interviewed. Of the 1,700 attorneys in these firms, 188, or 11 per cent, were questioned.

The data obtained from the interviews with supplementary data from directories, law firm histories, and interviews with university placement centers are used to describe recruitment, career patterns, the nature of work, the firm's organization, and some differences between large and small law firms. Quotations from interviews are liberally used, but there is infrequent indication as to their representativeness. Tabular information is presented on: What can a junior attorney do to become a partner; place of birth of partners; college attended, law schools attended; number and type of jobs held by rank of attorney; and so on.

Two types of conclusions emerge from the above types of data. The first layer of conclusions arise out of the 100-page description of recruitment and selection practices, and from the discussion of the work and organization of the Wall Street firm. These are that the recruitment standards of large law firms are high, and that "most offices . . . have formalized the role of the 'hiring partner.'" The selection process and career patterns are dependent on Ivy League schools, select law schools, family, religion, social status, and performance. Law offices outside of New York do not have recruitment procedures and rules as formal as those in large New York firms, nor do they seek out Eastern elite school graduates as much as the New York firms Differences between New York firms and those outside New York involve differences in practice that lead to variations in the organization; and while similarities in size involve similar housekeeping regulations, the minimal need for teamwork for the non-New York attorneys results in fewer rules that aid the New York law office team function. The large New York law firm is characterized by a formal partnership agreement, a written memorandum of office practice, clerical regulations, personnel rules, departmental structure, a client-team system, a status system, a power structure, and a complex system of job assignments.

The second layer of conclusions involves the author's concern with the journalistic notions of Whytes' "The Organization Man." Conformity in dress and "related style of life" are reported present among "most Wall Street lawyers." As for ideological conformity, "some" reported they were strongly against bringing the *New York Post* newspaper into their law office. As for political ideology, the findings are that lawyers "slowly but surely . . . take on the values of partners and their wealthy clients." With respect to independence on local opinions, the author reports evidence of the existence and encouragement of independent legal thinking; however, autonomy is only sometimes present All lawyers, the author states, are methodical, prudent, and disciplined within the framework of the legal profession as a result of their training.

On the basis of these findings about conformity in the legal profession on Wall Street, the author concludes that "it is the thesis of this book that elite lawyers are not expedient conformers . . . are not the professional organization man in terms of their practice of the law, although they do generally fit the broad picture of the organization man where style of life is involved, especially in the areas of dress, manner, and choice of residence."

The evidence presented does not clearly support the second layer of conclusions The problems of bureaucracy and their applicability to law firms, as well as their consequences for the conforming and creative behavior of the lawyer, remain problems for exploration. More importantly, aside from the issues of the relation between evidence and conclusions, perhaps the questions posed by Whyte about the "Organization Man" are not the pertinent ones to be concerned about in a study of the legal profession.

SIMON MARCSON

Rutgers University

Relative Deprivation and Social Justice: A Study of Attitudes to Social Inequality in Twentieth-Century England. By W. G. RUNCIMAN Berkeley: University of California Press, 1966. Pp. xiv+338. $6.50.

W. G. Runciman takes as his central problem the discrepancy between social inequalities and people's sense of grievance about these inequalities. He seeks to show that attitudes to inequality can be understood in terms of the concept of relative deprivation and that they depend on the reference groups customarily adopted by different strata in a population.

Using historical material from 1918 to 1962, he interprets changes in working-class aspirations for economic, social, and political advancement as partly explicable by their relative deprivation in periods of gradual reform, economic crisis, and two world wars. He claims that the relative deprivation of the English working class in this period can be distinguished according to inequalities of class, status, and power, with different consequences for the extent of deprivation felt Runciman shows that the British working classes were inhibited by certain historical developments from contrasting their own situation with that of non-manual workers in justifying demands for higher wages or increased social benefits He argues that inequalities of status occasioned more intense feelings of relative deprivation. For instance, as more working-class children became educationally mobile, so too did their relatively disadvantageous position with respect to middle-class children become more apparent and more resented.

To tap contemporary British attitudes, Runciman uses a questionnaire administered to a national sample of adults He finds that on questions concerning income and material possessions—his definition of inequalities of class—the British working classes mainly choose their comparative reference groups from among their own ranks, with feelings of relative deprivation concentrated at lower income levels and among those who class themselves as working class. On questions of status, mainly measured by aspirations for children's education and occupation, Runciman shows that the situation is reversed and that higher aspirations are disproportionately concentrated among higher income levels and among those manual workers classing themselves as middle class.

A major inadequacy of this book is its loose organization, with sections on history, survey data, and political philosophy standing together but making little contribution to each other's development. Runciman seeks an integrated social science approach, but fruitful integration demands that the conclusions that each discipline contributes to the others are as precisely defined and as clearly validated as the respective discipline allows. Yet, in his historical analysis, Runciman fails to define the field of events to which his concepts apply. Nor does he establish the criteria used to select examples from this field. Consequently, he is easily accused of selectivity in his choice of historical examples.

This inadequacy is especially apparent in his use of the concepts of reference groups and relative deprivation with respect to his survey data. He rejects the use of concrete referents and uses instead the class to which respondent assign themselves as their normative reference group (p. 164). Yet, there is a most elementary analysis of what respondents mean when they refer to the nebulous concepts of middle or working class There is no attempt to ascertain whether the self-assignment has reference to a particular body of norms at all. In his own tabulation, what respondents said they meant by "working class" or "middle class" includes a range of items that carry very different implications for the norms a respondent has in mind Runciman's use of the manual/non-manual distinction appears to provide an index of membership reference groups. Yet, it is particularly exasperating to find that Runciman nowhere provides a further occupational breakdown of his sample beyond that of manual/non-manual. Occupational differences within the manual/non-manual distinction are obviously related to a respondent's self-rating as to class.

What Runciman in effect shows is that respondents who wish verbally to differentiate themselves from the broad occupational stratum to which they belong are also different in respect to educational aspirations for their children and their relative contentment with their economic position. If, however, we are to use reference groups to throw light on the relation between social inequalities and peo-

ple's attitudes toward them, we need to give a more concrete research meaning to an individual's reference group. This means a concrete and empirical documentation of the relation various individuals bear to their social structure. It involves not only an investigation of respondents' social background and present social positions but also an examination of the network of social relationships in which an individual carries on his life.

I cannot help thinking that many of the weaknesses of this book arise from Runciman's preoccupation with social class as a British phenomenon. He talks in terms of "middle class" or "working class" and treats them as "givens" or independent variables. Yet it is never clear what body of social phenomena is meant by a particular social class. Consequently, it is difficult to see how his class distinctions help his analysis or an understanding of contemporary social attitudes in Britain. In many ways, this book tells us more about the current preoccupations and problems of a certain section of British sociology than it does about the social phenomena it analyzes.

BRYAN ROBERTS

University of Manchester

The Delinquent Solution: A Study in Subcultural Theory. By DAVID M. DOWNES. New York: Free Press, 1966. Pp. xi+284. $6.95.

That American sociologists have been excessively preoccupied with gang delinquency and overplay the concept of subculture in their explanations has needed saying for sometime, and perhaps the saying of it by a British criminologist will stir more effect than if done by native critics. Be that as it may, the critical analysis across the board of American delinquency theories from Merton to Sykes and Matza and their empirical tests with data on delinquency in two London boroughs in this work command respectful attention on their own. The canvass of theories, in contrast to criticism American style, is pleasantly devoid of polemics; indeed, one almost gets the impression of a hungry English scholar happily sorting out imported theoretical goodies, searching for morsels which here and there he can use in his own inventive interpretation of English delinquency.

The author's style is lucid and even captivating in some places, but in others it is less than precise. Sharp editing might have helped, or perhaps footnotes for the reader who wishes to translate English into American. There is a tendency to say too much or to try to integrate so many findings that it is not always possible to say where the author is taking his stand.

In general, the conclusions seem to be that subculture is more a conception than a concept, that gangs are only adventitiously connected with English delinquency, that evidence for retreatist, conflict, and delinquent subcultures is largely absent, as well as any substantial indications of delinquent contraculture. *Alienation* of working-class adolescent males from middle-class and skilled worker values is found less applicable than their *dissociation.* Building on this basic observation, the author develops a plausible theory of situational delinquency, explicitly leaving aside lone offenders and those processed into professional crime by court and institutional contingencies. To Merton's notion of structured frustration of any (non-pecuniary) goals, he conjoins ideas from Sykes and Matza on subterranean values and explains the diffuse patterns of English delinquency in terms of differential access to leisure. He does this with considerable skill, although limitations of the statistical data and the small size of his observational sample leave the inevitable query of validity. In some ways the American reader may find this study a more intriguing contribution to the social psychology of the English working class than to the sociology of deviancy.

EDWIN M. LEMERT

University of California, Davis

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Dimensions of Nations: Size, Wealth, and Politics[1]

Jack Sawyer

ABSTRACT

A total of 236 social, economic, political, and other characteristics were collected for 1955 for all eighty-two then-independent nations of more than 800,000 population. These 236 variables were correlated and factored, and the factors rotated orthogonally. Forty per cent of the total variance in the original matrix is accounted for by three dimensions: size, wealth, and politics. Closely indexing these three dimensions are three variables, themselves practically uncorrelated: population, gross national product per capita, and political orientation—Communist, neutral, or Western. These three variables sort nations into groups of considerable homogeneity. Correlations between these three variables and each of the others show that size, wealth, and politics highly predict a large number of other national characteristics. The prominence of these three dimensions has a number of implications for measurement, design, and analysis of cross-national research.

Increased availability of data for cross-national comparisons presents such research with a problem it has not always been favored enough to have: Which variables to choose?[2] The choice is consequential indeed, for the number of systematic empirical cross-national studies is growing rapidly in a variety of areas—including international relations, comparative politics, comparative sociology, economic development, and increasingly, attitudes and personality.[3]

The general value of such cross-national research is that it extends the range of comparison and so reveals relations that lack of variation would otherwise obscure.[4]

[1] This paper reports a portion of the research being conducted under NSF grants G24827 and GS-536. Additional analysis will appear in *Dimensions of Nations: A Factor Analysis of 236 Social, Political, and Economic Characteristics,* by Rudolph J. Rummel, Jack Sawyer, Harold Guetzkow, and Raymond Tanter. I am pleased to acknowledge the substantial contribution that this larger research, and these colleagues, made to the present analysis. I am grateful also to Henry F. Kaiser, Duncan MacRae, and David L. Wallace for consultation on design and analysis, and to Brian J. L. Berry, Robert Dernberger, and Otis Dudley Duncan for comments on the manuscript.

[2] The increasing availability is notably illustrated by the United Nations *Demographic Yearbook* and *Statistical Yearbook,* both published since 1948. Such data, though far from ideal, appear particularly useful for the present purpose of examining covariation over a large number of nations, since this procedure is generally less affected by data quality than is the characterizing of individual nations.

[3] Notable examples include J. David Singer (ed.), *Empirical Studies of International Relations: International Yearbook of Political Behavior Research, Volume 7* (New York: Free Press, 1966); Richard L. Merritt and Stein Rokkan (eds.), *Comparing Nations: The Use of Quantitative Data in Cross-National Research* (New Haven, Conn.: Yale University, 1966); Daniel Lerner, *The Passing of Traditional Society* (New York: Free Press, 1958); Simon Kuznets, "Quantitative Aspects of the Economic Growth of Nations," *Economic Development and Cultural Change,* a series of entire issues in the following volumes: V (October, 1956), V (July, 1957, suppl.), VI (July, 1958), VII (April, 1959, pt. 2), VIII (July, 1960, pt. 2), IX (July, 1961, pt. 2), X (January, 1962, pt. 2), XI (January, 1963, pt. 2), XIII (October, 1964, pt. 2), XV (January, 1967, pt. 2); Gabriel A. Almond and Sidney Verba, *The Civic Culture: Political Attitudes and Democracy in Five Nations* (Princeton, N.J.: Princeton University, 1963); David C. McClelland, *The Achieving Society* (Princeton, N.J.: D. Van Nostrand Co., 1961).

[4] This is similarly the value of cross-*cultural* research, which also has other parallels to cross-national research. In cross-cultural research, too, a substantial increase in studies has followed greater availability of data. Notable sources

The specific value of this method in a particular area is aptly illustrated by the comparative political analyses of Seymour M. Lipset. His work—a leading example of cross-national research—illustrates both the promise and the problems in this approach. His comparative analyses in *Political Man, The First New Nation,* and elsewhere provide an unusually illuminating integration of theory and data.[5] The difficult task of matching theoretical and empirical analyses, however, almost necessarily leaves room for questioning.

For example, Marsh and Parish report that their "more systematic test of Lipset's hypotheses with a more representative sample of nations shows that [a moderately low] level of modernization is not a sufficient condition for Communism," they also report negative findings for "the other variables said by Lipset to qualify or specify this relationship."[6] Whether the definitive test of Lipset's hypotheses has yet been made is not the point here, however. What is important is that when cross-national research is based upon systematic empirical analyses, the questioning of such hypotheses can be conducted objectively.

The first point to question is the variables themselves—the major concern of the present study. Phillips Cutright, commenting on another study by Lipset, cites specific problems that may arise from the way such concepts as political legitimacy and economic development are operationalized and employed: (*a*) ratings may be unreliable (though it is possible, as Cutright shows, to construct objective indexes even for concepts like "political development"), (*b*) treating variables as dichotomies (e.g., democracy versus dictatorship) obscures much meaningful variation, and (*c*) consequent analysis simply of mean differences (rather than, for example, correlations) fails to reveal the magnitude of relations between variables.[7]

The selection of variables is further complicated by the need for breadth. The historian David Potter, in reviewing *The First New Nation,* notes approvingly that Lipset recognizes, as even some historians do not, how "history can never analyze the working of forces purely in terms homogeneous to the forces themselves—political forces in terms of political analysis, economic forces in terms of economic analysis, social forces in terms of sociological analysis."[8] This means analyzing relations among a number of variables. But how many? A recent compilation by Banks and Textor includes fifty-seven cross-national variables, and one by Russett *et al.* has seventy-five.[9] In the end, however, as Karl Deutsch notes of cross-national research, "One's usual aim will be economy: to get the greatest amount of useful information from

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include the Human Relations Area Files, inaugurated by George P. Murdock; his "World Ethnographic Sample," *American Anthropologist,* LIX (August, 1957), 664–87; and the "Ethnographic Atlas" that appears in the quarterly issues of *Ethnology.* An approach similar to the present identification of national dimensions has also been employed with Murdock's data (see Jack Sawyer and Robert A. LeVine, "Cultural Dimensions: A Factor Analysis of the World Ethnographic Sample," *American Anthropologist,* LXVIII [June, 1966], 708–31).

[5] Seymour M. Lipset, *Political Man: The Social Bases of Politics* (Garden City, N.Y.: Doubleday & Co., 1960); *The First New Nation: The United States in Historical and Comparative Perspective* (New York: Basic Books, 1963); "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," *American Political Science Review,* LIII (March, 1959), 69–105.

[6] Robert M. Marsh and William L. Parish, "Modernization and Communism: A Re-test of Lipset's Hypotheses," *American Sociological Review,* XXX (December, 1965), 942.

[7] Phillips Cutright, "National Political Development: Measurement and Analysis," *American Sociological Review,* XXVIII (April, 1963), 253–64.

[8] David M. Potter, Review, *American Sociological Review,* XXIX (August, 1964), 590.

[9] Arthur S. Banks and Robert B. Textor, *A Cross-Polity Survey* (Cambridge, Mass.: Massachussets Institute of Technology, 1963); Bruce M. Russett, Hayward R. Alker, Jr., Karl W. Deutsch, and Harold Lasswell, *World Handbook of Political and Social Indicators* (New Haven, Conn.: Yale University, 1964).

the smallest body of data."[10] The value of parsimony is both theoretical and empirical; the manipulation both of concepts and of data is easier and clearer when variables are fewer. Thus the general rule for the number of variables: as few as we may, as many as we must.[11]

The usual approach to selecting variables implicitly recognizes this principle. One generally tries to select variables that faithfully represent important concepts and that do so with maximum coverage and minimum redundancy. Commonly, this amounts to an over-all judgment that weighs all one knows about the prospective variables and their interrelations. But as comparative analysis employs more variables and more nations, the magnitude of data makes it increasingly difficult to capture informally all the information necessary for efficient selection. At this point, multivariate statistical analysis, which examines systematically how these variables relate, can contribute substantially to the decision.[12]

Factor analysis is specifically designed to solve problems just like the present one. It identifies the minimum number of dimensions that summarize, to any given extent, the variation of a larger number of original variables. How many dimensions are required depends upon the level and patterning of correlation among the variables. In the present study, it will be seen that three dimensions suffice to account for 40 per cent of the variation among 236 variables. This reflects the substantial amount of structure that exists among these various social, economic, political, and other national characteristics.

Seeking to identify prominent dimensions of nations is of course not a novel goal. Traditional characteristics of political systems, as Gregg and Banks point out, have employed many such concepts—power, legitimacy, ideology, instability, consensus, influence, and bargaining, among others. And as they further note, "Regardless of the form these efforts assume, they all posit the existence of factors or dimensions which are common to all political systems."[13]

Thus it is not unreasonable—just unusual—that factor analysis should be employed to aid in this process. It helps by identifying dimensions that meet one critical criterion for an important theoretical concept: they relate to a large number of other variables. Thus factor analysis, in this research, contributes what might be considered a function of measurement and description. The present study does not attempt to construct a theory explaining the relations it presents. Rather, it promotes the empirical basis that underlies the establishment of *any* theory. The distinction of this research is that it analyzes these empirical relations on such a scale, and so systematically.

The purpose of this study, then, is to identify a few dimensions that reflect some primary ways in which nations differ, and to show how these dimensions relate to a large number of other variables. In particular, this research (*a*) presents data on the largest set of cross-national variables (nearly all quantitative) whose covariation has yet been examined, (*b*) identifies three dimensions that summarize much of this covariation, and (*c*) shows how these varia-

[10] Karl W. Deutsch, "Social Mobilization and Political Development," *American Political Science Review*, LV (September, 1961), 493–514.

[11] The rule is general indeed; in fact, this exact phrasing happens to be cited in considering quite another problem—how many factors to bring into a theory of social behavior (see George C. Homans, *The Human Group* [New York: Harcourt, Brace & Co., 1950], 121).

[12] This distinction in the relative amount of clinical judgment and statistical analysis that enters into the selection of variables can be regarded as a part of the larger question of the relative role of clinical and statistical procedures generally (see Jack Sawyer, "Measurement *and* Prediction, Clinical *and* Statistical," *Psychological Bulletin*, LXVI [September, 1966], 178–200).

[13] Phillip M. Gregg and Arthur S. Banks, "Dimensions of Political Systems: Factor Analysis of *A Cross-Polity Survey*," *American Political Science Review*, LIX (November, 1965), 602.

bles correlate with, and are grouped by, the three dimensions.

I. DATA: 236 VARIABLES FOR 82 NATIONS

The present study is more concerned with the correlation between national characteristics than with their absolute levels. Correlation between variables usually varies less from year to year than do mean levels, so this study can take advantage of the greater accuracy and availability of data that are a few years old. By the time of data collection in 1963, much data for the year 1955 had been modified by later, more complete information, and made available for more nations. The year 1955 is regarded by Deutsch, Bliss, and Eckstein as "fairly representative of 'normal' conditions in the mid-50's, which were relatively free from major wars or recessions and their possible distorting effects."[14] It also provides an unusual number of ethnic and economic characteristics, since these were given special attention in that volume of the *Demographic Yearbook.*

Selection of the year 1955 permitted inclusion of all eighty-two then-independent nations having a population of over 800,000.[15] A nation was considered independent if it conducted its own foreign affairs, as evidenced by the exchange of ambassadors. Employing only independent nations restricted analysis to political units of more nearly the same type than if colonies and other non-independent areas had been included. Universal inclusion of independent nations (of the minimum size) gives underdeveloped nations more representation than they usually achieve in cross-national studies.[16] Together the eighty-two nations comprised about 93 per cent of the 1955 world population.

Data were obtained primarily from tabulated sources: the *Demographic Yearbook, Statistical Yearbook,* and other UN compilations, like the *Report on the World Social Situation,* as well as from non-UN sources, like Ginsburg's *Atlas of Economic Development.* Some variables were not available in tabulated form, but instead were obtained from references that devote a section to each country, such as the *Worldmark Encyclopedia of the Nations,* and the *Statesmen's Yearbook.* A total of about fifty references were consulted for one or more variables, or to fill in missing values for a few nations on a variable obtained primarily from another source.[17]

Extensive searching eventually produced values for about 82 per cent of the nearly 20,000 cells in the 82 × 236 data matrix.[18] On the average, nations had data for almost 200 variables; only nine nations had data for fewer than 150, and only North Vietnam for fewer than 100.

SELECTION OF VARIABLES

Governing the selection of variables were the following five criteria—the first three

[14] Karl W. Deutsch, Chester I. Bliss, and Alexander Eckstein, "Population, Sovereignty, and the Share of Foreign Trade," *Economic Development and Cultural Change,* X (1962), 353–66.

[15] The largest independent nation excluded is Muscat and Oman, with a population of 550,000; the smallest three nations included are Costa Rica, Mongolia, and Panama, all between 800,000 and 1,000,000.

[16] The present analysis excludes, however, the approximately fifty nations that have become independent since 1955. Nearly all are generally considered underdeveloped, and together they comprise about 6 per cent of the world's population. Their inclusion in a study with the present range of variables would be infeasible even for very recent years because the data are too sparse. Such inclusion also appears undesirable, because their brief independence means that their characteristics reflect partly their former colonial government and hence a different kind of political unit. Until the structure of new nations becomes more strictly representative of the independent nations themselves, it may frequently be desirable to analyze them separately from others.

[17] Complete references for each variable are provided in Rummel *et al., op. cit.* (see n. 1 above).

[18] These data, on cards or tape, are available from the Inter-University Political Data Consortium, University of Michigan, Ann Arbor.

more substantive, the last two more methodological:[19]

1. *Conceptual relevance.*—Variables were preferred that promised to have particular relevance for phenomena whose comparison across nations is of special interest. For example, a number of variables were included to represent such concepts as economic development, political development, urbanization, and industrialization. Theories of international relations produced such presumed indicants of political power as energy production, defense expenditures, and military personnel.

2. *Prior use.*—To permit comparison and possible integration with previous findings, the present analysis purposely incorporated many of the variables separately included in one or another of the earlier studies. From three previous factor analyses, this study includes nine of Schnore's twelve "modernization" and urbanization variables, twenty-seven of Berry's forty-three economic development variables, and thirty-six of Cattell's seventy-two variables.[20] From each study, variables were selected to represent each of its major factors. Further, the present analysis took care to define these matched variables in exactly the same way; minor variations were suppressed for the sake of comparability. The present variables also include ten of Hauser's seventeen "demographic indicators of economic development," eleven of Shannon's twenty-one economic development variables, and twenty-nine of ninety-five objective and rated variables suggested by Deutsch.[21]

Increasing availability of data permits the more recent studies to have more data; the two largest studies, prior to the present one, are those by Banks and Textor, with fifty-seven characteristics for 115 political units, and by Russett *et al.*, with seventy-five variables for 133 political units.[22] From these two studies, twenty-two and thirty-eight variables are included.

Thus, the present study brings together in a single analysis a substantial proportion of the variables employed in previous cross-national studies. Moreover, each of these studies includes many variables that are strongly correlated with one another, so a modest proportion of the variables may include a much larger proportion of the total variance. Altogether, then, the present study probably reflects a very sizable proportion of the total variation in these earlier studies. Only by having so many variables all in a single study, however, is it possible to examine comprehensively their complete interrelations.

3. *Representativeness.*—Variables were selected to cover a wide range of social, economic, political, and other national characteristics, and to avoid redundancy in doing so. For example, because gross national product (GNP) per capita was included,

[19] Another important characteristic of a variable—though not one that governed its selection here—is whether it constitutes a stock or a flow. Of the 236 variables, 115 (like population) are measured at a particular point in time, while 121 (like gross national product) represent the sum over a period, almost always one year. It happens that these two types of variables are rather evenly distributed over the resultant factors, but subsequent causal analysis should distinguish them.

[20] Leo F. Schnore, "The Statistical Measurement of Urbanization and Economic Development," *Land Economics*, XXXVII (August, 1961), 229–45; Brian J. L. Berry, "Basic Patterns of Economic Development," in Norton Ginsburg (ed.), *Atlas of Economic Development* (Chicago: University of Chicago, 1961), pp. 110–19; Raymond B. Cattell, "The Dimensions of Culture Patterns by Factorization of National Characteristics," *Journal of Abnormal and Social Psychology*, XLIV (1949), 443–69.

[21] Philip M. Hauser, "Demographic Indicators of Economic Development," *Economic Development and Cultural Change*, VII (January, 1959), 98–116; Lyle W. Shannon, "Is Level of Development Related to Capacity for Self-Government?" *American Journal of Economics and Sociology*, Vol XVII (July, 1958); Karl W. Deutsch, "Toward an Inventory of Basic Trends and Patterns in Comparative and International Politics," *American Political Science Review*, LIV (March, 1960), 34–57; Deutsch, *op. cit.* (1961).

[22] Banks and Textor, *op. cit.*; Russett *et al.*, *op. cit.*

national income per capita was not. The range of variables is indicated by the variety of sectors from which the data arose: agriculture, arts, communications, conflict, consumption, demography, economy, education, geography, government, health, history, international relations, labor, language, military, production, religion, resources, science and technology, trade, and transportation.

4. *Availability.*—A number of otherwise promising variables—government research and development expenditures, for example—were unavailable for a sufficient number of nations. Of the 236 variables used, however, 53 per cent were available for at least seventy of the eighty-two nations, 86 per cent for at least fifty nations, and all for at least twenty-five nations.

5. *Objectivity.*—Whenever possible, variables were employed that were already in quantitative form in the original source: 169 are of this kind. Forty-two variables were frequency counts especially made for this study. Of these, twenty-one were characteristics (like number of UN votes in agreement with the United States) that are clearly defined. The other twenty-one were characteristics (like the number of political parties) where judgment enters more in defining the category. Eleven variables are over-all assessments of the presence or absence of a characteristic (like whether the present government came into power through revolution). Finally, for fourteen variables (like the degree of voter choice), each nation was given a single over-all rating on a scale of ordered categories.

Of these various types of data collection, the more objective probably provide more satisfactory information. All variables, however, are subject to error, and it is important to consider, as in the following section, the effects that such error may have.

DATA RELIABILITY

The quality of data is affected by problems of both definition and measurement. One definitional problem is that the variable may not apply to some nations—for example, shipping tonnage for Switzerland. Such instances—of which there are relatively few—are treated as missing data. Divorce illustrates another definitional problem. In some countries, couples who live apart for many years are much more likely to become legally divorced than in other countries; thus similar behavior may be reported differently. Statistics on divorce thus combine the behavioral phenomenon with its cultural interpretation; the combination is of interest itself, but it should not be confused with the behavior alone. A similar situation occurs when one society prefers to budget educational expenditures under defense, while another does the reverse.

Even when definitions are reasonably comparable, measurement may be far from accurate. Error may result from incomplete or inaccurate enumeration or registration, or from the process of adjusting from a base year to a current year through interpolation, extrapolation, or balancing. The implication of such error, however, is different—and generally less serious—for computing correlations than it is for characterizing individual nations.

Let x and y be the true values of two variables, when each is measured without error, and let e_x and e_y be the error with which each is measured. Then in practice, we can only correlate $x + e_x$ with $y + e_y$, rather than x with y, as we would like. But if each error component is independent of the other three components, then the expected effect of error is simply to reduce the correlation.

When error is not independent, it can raise *or* lower the correlation. The amount of change in the correlation depends, however, on the size of the error e_x in comparison with the total range the variable x has over nations. In general, the likely margins of error in these data are small in relation to the variance over nations, so the correlations are not likely to be greatly affected.[23]

[23] A 10 per cent error in the population of a nation—though for purposes of that nation very serious—is small in comparison with the ratio of

Moreover, analyses of estimates of the expected magnitude of errors suggest that error may not be highly systematic. For each of forty variables, the reliability of every nation was rated on a three-point scale from the quality codes the United Nations provides. Intercorrelations among the forty sets of reliabilities were low; there was little tendency for some nations to be more reliable on all variables, and others less reliable on all variables. Further, reliability of population did not correlate with population itself, nor did reliability of the GNP correlate with the GNP per capita. This lack of system further suggests that for present purposes the effect of error is not grossly biasing.

Whatever the reliability, though, of an original variable, its value for the present analysis may frequently be increased by alteration of its scale through norming or transformation.

NORMING

Most of the variables of this study are of more conceptual interest when normed by some appropriate divisor. Newspaper circulation per capita, for example, tells something about the intensity of communication, whereas newspaper circulation alone reflects largely the population of the nation.

Among original and normed variables, four classes may be distinguished: (*a*) an absolute—a quantity or frequency, like population; (*b*) a proportion—a quantity or frequency divided by the whole of which it is a part, like the proportion of employment in agriculture (agricultural employment/total employment); (*c*) an average—a summated quantity divided by the number of units summed over, like the average wage per employed person (total wages/total employment); (*d*) a ratio—a quantity or frequency divided by another quantity or frequency not originating from the same units, like energy resources per capita (energy resources/population).

The choice of whether to employ a variable as an absolute, a proportion, an average, or a ratio depends largely upon which makes better conceptual sense; the same principle governs what divisor to employ. In the present analysis, population is by far the most common norming factor. Second in frequency is GNP, which is often employed when the numerator represents money rather than people. If these norming factors were not employed, many variables would necessarily correlate mainly with the size of the economy or the population.

Norming also promotes comparability across nations, for even when totals are defined or measured incomparably, correlated biases in numerator and denominator may reduce the error in normed quantities. If nations variously under-report the number of book titles published, but each nation under-reports science titles about as much as it under-reports books in general, then the proportion of science titles reported will contain relatively less error than the total number of titles.

TRANSFORMATIONS

After variables were normed, they frequently were transformed, to promote three desirable attributes: additivity, normality, and homogeneity of variance. Of these, additivity is most important, since correlation and factor analysis both capture only the linear component of a relation between two variables. Transformation toward normality reduces the chance that the correlation between two variables is low simply because their distributions are shaped differently. For this purpose, any single distribution would suffice, but a distribution concentrated toward the middle, with no large gaps between cases has the further advantage of reducing the influence outly-

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700 to 1 between the populations of China and Mongolia. Even if every nation's population were 10 per cent in error—randomly high or low—the correlation of population with any other variable would be little influenced. This is also true for many other variables where differences among nations are also large. Even variables that are normed by dividing by population have considerable ranges; that for GNP per capita is about 50 to 1.

ing cases have upon the correlation. Finally, homogeneity of variance promotes the validity of inference from the results of regression analysis.

To promote additivity and homogeneity directly means examining the bivariate relation between each pair of variables—27,730 of them. An appropriate computer procedure could render this an efficient and desirable operation, but the present approach transformed each variable toward normality simply on the basis of its univariate distribution. Doing this tends indirectly to promote additivity and homogeneity as well.

Transformations were made only when they could materially reduce a grossly outlying value or marked departure from normality (as revealed by a χ^2 test); altogether, 132 variables were transformed.[24]

II. DIMENSIONS: SIZE, WEALTH, AND POLITICS

To identify the structure of covariation among the 236 national characteristics, product-moment correlations were computed between each pair of variables—employing for each correlation only those nations that had values for both variables. The resulting 236 × 236 correlation matrix was factored by the method of principal components, which produced fifteen factors that accounted for 77 per cent of the total variance among the 236 variables. These fifteen factors were then orthogonally rotated by the varimax procedure.[25]

Both before and after rotation, about 40 per cent of the variance was accounted for by the first three factors: size, wealth, and politics. Of this variance, wealth accounted for about 20 per cent and size and politics for about 10 per cent each. Exact proportions of the variance should not be taken too seriously, since they would differ somewhat for another sample of variables. They do indicate, however, that each dimension clusters many variables, and this is especially significant because variables were not selected specifically to produce these dimensions.

SIZE

Of all national characteristics, size is probably the most obvious—but this makes it no less important. And although population is the most prominent representative of size, such variables as a nation's energy resources, arable land, and GNP also load highly on this factor. These four highly loading measures are conceptually distinct: none of them forms a part of any other as, for example, defense expenditures does of GNP. The conceptual distinction among these variables emphasizes that their empirical relations are more than definition or artifact but represent, instead, part of the determinate system constituting the structure of societies.

The present analysis says nothing, of course, about the nature of the causal chain connecting these empirically related variables. It is left to other studies to explain how resources of land and energy may promote larger populations and economies and how, in turn, more people and

[24] The particular transformation employed to promote normality depended upon the shape of the original distribution. A large number of variables had marked positive skew, which reflects that many nations are small but few large, and many are poor but few rich. Such distributions were transformed by taking the logarithm of each value. Then if the relation between two logarithmically transformed variables is linear, this means that in the original data percentage change in one variable was linearly related to percentage change in the other. Such a condition is frequently found when absolute changes fail to be strictly linear functions of one another.

When positive skew is less pronounced, the square root transformation produces a closer fit to normality, since the logarithmic transformation then tends to produce a skew in the opposite direction. For the relatively few variables with negative skew—where nations concentrated toward the upper end of the distribution—each value was squared. For a number of variables in the form of percentages, an inverse sine transformation was employed.

[25] Complete results for all fifteen factors are presented in Rummel *et al.*, *op. cit.*, showing further that an oblique rotation produces essentially the same results.

more money may result in more land and resources. The present analysis does, however, specify the strength of such relations more precisely than is usually done.

Appearance of the size dimension is the more notable because so many variables were normed rather than employed as absolute quantities. Nor do those variables that were employed as absolute quantities always relate most highly to the dimension of size. Trade and the number of motor vehicles, for example, both correlate less with population than with the normed measure—GNP divided by population—that indexes the second dimension.

WEALTH

This factor includes a wide range of variables generally associated with economic development: proportion of employees in manufacturing, energy consumption per capita, life expectancy, telephones per capita, etc. More variables relate to this factor than to any other, and their correlations with it are substantial. This indicates that a single dimension, though it does not exhaust the concept of development, nonetheless encompasses many of its aspects.

For this major dimension of development, the variable of GNP per capita is highly central and provides an efficient index.[26] Although national income is for some purposes conceptually superior, GNP is generally more widely and reliably available; further, for the sixty-five nations where both measures were available, they correlate .97. Either measure is conceptually superior to a measure, like telephones per capita, that correlates highly but does not enter strongly into theories dealing with the entire structure of a society.

The generality of per capita GNP is illustrated by the extent to which this variable can account for the relations between others. Consider, for example, the high correlation between telephones per capita and deaths from heart disease: $r = .69$. From this one need not conclude that heart disease promotes telephones, or that telephones promote heart disease. More reasonably, both are marks of a rich society, and this is consistent with the drop in the correlation, when per capita GNP is partialled out, from .69 to .22. Many other variables show similar relations.

POLITICS

The variable that best indexes this dimension simply allocates each nation to one of three political orientations—Communist, neutral, or Western, depending upon whether, in 1955, the nation had military treaties or alliances with the Soviet Union, the United States, or neither. For purposes of correlation, these three orientations were scored 0, 1, and 2.[27]

It would be desirable, of course, to estimate a nation's affiliation with the Soviet Union or the United States more finely than this three-point scale permits. This can be done, objectively, by examining

[26] Several problems exist in comparing GNP across nations Among them are these: (*a*) the corresponding "gross material product" of Communist nations excludes services; (*b*) exchange rates, especially where both free and controlled rates exist, are somewhat arbitrary means of conversion; (*c*) differences in purchasing power are not reflected; and (*d*) many goods and services, particularly in underdeveloped nations, are produced and consumed within households and so do not enter the economic record. Nonetheless, two reasons argue for its use. First, there is no measure that clearly excels it Second, the error in GNP is still small in relation to its range of GNP over nations, and so correlations with other variables are not likely to be greatly affected (see Paul Studenski, *The Income of Nations, Part Two: Theory and Methodology* [New York: New York University, 1961], and Oskar Morgenstern, *On the Accuracy of Economic Observations* [Princeton, N.J.: Princeton University Press, 1963]).

[27] Such scoring is not meant to assert that the political orientation of all neutrals is exactly equal toward the Soviet Union and the United States. Rather, this scoring simply attempts to use the information about political orientation in a fuller way than would a dichotomy that combined neutrals with Communist or with Western nations. In such a dichotomy, disparities among nations in the same category would necessarily be greater than with the present three-point scale.

some of the other variables that contrast a nation's relation to the Soviet Union with its relation to the United States: UN votes, aid received, or translations of English and Russian works.[28]

POPULATION, PER CAPITA GNP, AND POLITICS AS FACTORS

Now that three factors have been identified, there exist two principal needs: (*a*) to derive indexes that score each nation on each factor, so that nations' standings may be compared and used in subsequent analysis; and (*b*) to display the relation of each variable to each factor, and so better define the structure that exists among these variables. Both needs are better served if a transformation of the factors is made, as later described, so that each is coincident with a single prominent variable.

The usual factor-analytic procedure for obtaining indexes (or factor scores) is to compute for each factor an equation that gives the value of a nation on that factor as a function of its value on some or all of the variables. *But to weight many variables to produce a factor score tends to defeat, in the last stage of factor analysis, the parsimony achieved in the first.* So it is often preferable to weight only a few variables in constructing an index for a factor.

The present analysis goes further yet, and selects for each factor a single variable to represent it. This is possible because, for each dimension, there is a variable that both loads highly and is conceptually appropriate. Population loads .91 on the size factor, GNP per capita loads .91 on the wealth factor, and political orientation loads .86 on the politics factor. Table 1 shows these values in its first three columns, which comprise the usual matrix of factor loadings, shown here only for these three variables of the 236. Each of these three variables loads high on one factor and low on the others, showing that it is nearly coincident with the factor, and hence a good representative of it.

TABLE 1

CORRELATIONS (FACTOR LOADINGS) AMONG POPULATION, PER CAPITA GNP, POLITICS, AND FACTORS I, II, AND III

Variables	Orthogonal Varimax Factors			Oblique Factor-Variables		
	I	II	III	Population	Per Capita GNP	Politics
Population	.91	−.13	−.05	1 00	− 04	04
Per capita GNP...	.18	.91	.03	− .04	1.00	10
Politics	− 05	.05	.86	04	.10	1 00

At this point, the present analysis departs still further from the usual procedure by actually adopting these three variables as the factors themselves. Since the original factors are so close to these prominent variables, it seems reasonable that they be made to coincide exactly. The location of the original varimax factors, after all, reflects several arbitrary elements, and would differ, for example, for another rotation criterion or another sample of variables.

The three variables thus become "factor-variables," and the last three columns of

[28] It also appeared possible that the variable Communist-neutral-Western might relate non-linearly to some characteristics; neutrals might be higher or lower than both other groups. For this reason, another variable was created—a dichotomy contrasting neutrals with non-neutrals. As it turned out, however, neutrality related only moderately to most other characteristics; its correlation with proportion in the military, for example, was only −.17.

Table 1 show how they relate to each other. These last three columns, like the first three, may be considered a matrix of factor loadings—merely on different factors. The variable, population, of course loads 1.00 on the population factor, and it loads —.04 and .04 on the other two factor-variables. These values, like factor-loadings generally, are also correlations, and so the matrix is simply the intercorrelation of the three variables.[29] For any given variable of the 236, its loadings on these three factor-variables are simply its correlations with population, per capita GNP, and politics. This means that this alternative presentation actually requires no new computation; Table 3, shown later, simply selects correlations from the original matrix.

In addition, it makes no difference whether population, per capita GNP, and politics are considered as variables, "factor-variables," or factors. Whatever they are termed, such variables are important—as the original goals of this research emphasized—because they correlate with many other variables. Factor analysis helped identify them, but for conceptualizing the results, these variables appear better than the hypothetical factors themselves.

The three prominent variables, as Table 1 shows, are very nearly uncorrelated. This is not only of interest in itself, but it also facilitates subsequent analysis. It implies, for example, that the combined ability of these three variables to predict another can be essentially determined from just their separate correlations with that variable. The independence of population and GNP per capita, as Chenery points out, gives the analysis of relations *across* nations an advantage generally absent from analysis over time *within* nations, where the two variables usually increase together.[30]

Making factors coincident with single variables clarifies considerably the two major presentations that follow. Section III employs these three variables to show the relative standing of nations, and groupings among them. Section IV uses the correlations of the three variables with the other 233 to show the structure among the entire set.

COMPARISON WITH PREVIOUS FACTOR ANALYSES

Raymond Cattell's work substantially predates other cross-national factor analyses. In 1949, he reported factoring seventy-two variables (with data through 1937) for sixty-nine nations, producing twelve factors; later, he eliminated twenty-nine generally less developed nations and repeated the analysis on the same data, again obtaining twelve factors.[31] The five factors from the first analysis that compare most closely with those of the second were called Enlightened Affluence vs. Narrow Poverty; Cultural Pressure vs. Direct Ergic Expression; Vigorous, Self-Willed Order vs. Unadapted Perseveration; Size; and Poor Cultural Integration and Morale vs. Good Internal Morality.

The names, which are meant to describe the "syntality" (or collective personality) of a nation, illustrate, in contrast with the factors of the present study, how more or

[29] These factor-variables, unlike the original factors, are oblique. Thus "factor loadings" may be either "structure coefficients" (which these are), or "pattern coefficients" (which show the weighting to apply to factors in compositing variables). Since these factor-variables correlate so little, however, the two types of coefficients are highly similar. The new factors also account for slightly less variance. This is necessarily so, since these three variables were not completely contained in the space of the first three principal components, which expressly account for the maximum variance possible with three dimensions. Because the new factors are so highly correlated, though, with the old, the reduction in variance is very small.

[30] Hollis B. Chenery, "Patterns of Industrial Growth," *American Economic Review*, L (September, 1960), 624-54.

[31] Cattell, *op. cit*; Raymond B Cattell, H Breul, and H. Parker Hartman, "An Attempt at More Refined Definition of the Cultural Dimensions of Syntality in Modern Nations," *American Sociological Review*, XVII (August, 1952), 408-21.

less interpretation can go into naming. The present strategy has been to minimize interpretation, in the hope of promoting generality. However factors are named, though, they are best compared by examining individual variables. Such examination shows that the size factors compare and that "vigorous order" corresponds to the wealth factor that per capita GNP indexes.

Berry, using forty-three economic and geographic variables for ninety-five nations and dependencies, found four factors.[32] Of these, by far the largest was a "technological" factor which, rotated slightly, corresponds closely to the present wealth factor. The wealth factor also matches the single factor of economic development found by Schnore to account for nearly all the common variance among twelve economic and demographic variables for seventy-five nations.[33]

Adelman and Morris factored twenty-three variables for seventy-four nations to determine how social and political variables related to economic development.[34] Their first two factors account for most of the variance, and a rotation of these causes them to correspond moderately to the present factors of wealth and politics. Sample differences probably detract from higher correspondence, since they used only underdeveloped nations. Gregg and Banks factored sixty-eight variables, mostly selected from Banks and Textor's *Cross-Polity Survey* and presumably for the same sample of 115 nations.[35] Their variables were almost solely political, so it is reasonable that their largest factor, accounting for about one-fourth of the variance, corresponds closely to the present politics factor.[36] Russett, using broadly representative data from his *World Handbook of Political and Social Indicators*, factored fifty-four objective variables for eighty-two countries.[37] His first three factors, Economic Development, Communism, and Size account for 50 per cent of the variance, and match very closely the three dimensions of the present analysis.

Thus, size, wealth, and politics account for substantial proportions of the variance, not only in the present analysis of 236 variables, but also in studies with fewer, and less broadly representative variables. It is particularly remarkable that this agreement results from studies of such varying disciplinary orientation: psychology, geography, demography, economics, and political science (the last two studies). The importance of the resulting dimensions is further demonstrated, in the following section, by their ability to sort nations into meaningful groupings.[38]

[32] Berry, *op. cit.*

[33] Schnore, *op. cit.*

[34] Irma Adelman and Cynthia Taft Morris, "A Factor Analysis of the Interrelationship between Social and Political Variables and Per Capita Gross National Product," *Quarterly Journal of Economics*, LXXIX (November, 1965), 555–78.

[35] The data appear in Banks and Textor, *op. cit.*; the factor analysis in Gregg and Banks, *op. cit.*

[36] For at least two reasons, the interpretation of the factor structure, and particularly the proportion of variance accounted for, is open to question. First, many of the variables were ratings, so that any rater halo across variables would promote spurious correlations and factors. Second, over half of the variables are simply linear combinations of other variables, and so their correlation is a mathematical necessity. For example, variable 53, bicameral legislature, is just the opposite of variable 52, unicameral legislature, and the loadings of these two variables, on all factors, are exactly the same except that the signs are reversed.

[37] The data appear in Russett *et al.*, *op. cit.*, the factor analysis in Bruce M. Russett, "Delineating International Regions," in Singer, *op. cit.*

[38] This can be done by factoring the relations between nations rather than variables, producing factors that represent groupings of nations. Such *inverse* or *Q*-factor analysis has been conducted by Berry, *op. cit.*; Russett, *op. cit.*; and Arthur S. Banks and Phillip M. Gregg, "Grouping Political Systems: *Q*-Factor Analysis of *A Cross-Polity Survey*," *American Behavioral Scientist*, IX (November, 1965), 3–6. Russett goes on to use his factors in the analysis of "regional" groupings, though more than region is involved, since, for example, Japan is with the "North Atlantic" factor.

III. THE CONFIGURATION OF NATIONS ON SIZE, WEALTH, AND POLITICS

The nature of these dimensions and their interrelations can be further elucidated by examining where individual nations stand on the dimensions and what groups of nations are similar.

PORTRAYING RELATIONS AMONG POPULATION, GNP, PER CAPITA GNP, AND POLITICS

Figure 1 plots the position of each nation (abbreviated as in Table 2) on the two absolute quantities, population and GNP.[39] These two are of course related, but by no means perfectly. Their correlation of .82 allows individual disparities—nations whose GNP is substantially higher or lower than the average for nations of their population.

Both population and GNP are plotted logarithmically, so their ratio—GNP per capita—appears as a straight line for any given value. Figure 1 shows lines for $600, $300, and $150 per year—chosen because in 1955 these levels distinguished rather sharply among nations. Nations equally distant from these lines have equal per capita GNP. For example, Burma, Pakistan, and China—though of widely differing GNP and population—are about equally poor, and so are about equally far from the line *GNP/cap = $150*.

The logarithmic scaling of Figure 1 provides yet another meaningful variable: GNP *multiplied* by population, which increases linearly from lower left to upper right. This product, and similar ones, have been suggested as measures of national power, which reflects that powerful nations are not only rich but large.

This measure does not directly incorporate military strength, and so it is by no means a complete index of national power. In some ways it appears—as the position of China and India suggests—more to index merely prominence. A nation with both a large population and a large economy (even if the first is too large for the second) is unlikely to be ignored; if not powerful at present, it may become so. It seems to be largely its population that causes India, whose GNP is barely larger than Canada's, to figure more prominently in world affairs. Similarly, New Zealand's GNP about equals Egypt's, but with only one-tenth the population, its prominence does not.[40]

Altogether, Figure 1, through its two axes and two diagonals, presents four variables of conceptual interest: population, GNP, per capita GNP, and GNP $\times$ population. Of the six relations among these variables, however, only one approaches empirical independence—the relation between population and GNP per capita.

As Figure 1 shows, large nations can be either rich or poor, and the same is true for small nations. This essential independence makes the pair of variables, population and per capita GNP, preferable for many purposes to the pair, population and total GNP. In the former pair, gross population is reflected in only one measure rather than both, and hence economy can be analyzed independently of population.

GROUPING OF NATIONS

If population and per capita GNP represent important dimensions, then nations similar on these two should be generally similar on a number of characteristics. The factor analysis demonstrated this to be so, and Figure 1 illustrates the groupings that result.

Viewed against the full range of variation among nations, the relative similarity of certain sets is considerable. The size and wealth of the Soviet Union and the United States distinguish them from other nations as sharply as the size and poverty of China and India distinguish them.

[39] Mongolia, with a population estimated at 841,000 and a GNP of less than $50 million, is off the graph at the bottom left.

[40] The importance of population to a nation's power is treated extensively by Katherine Organski and A. F. K. Organski, in their *Population and World Power* (New York: Alfred A. Knopf, Inc., 1961).

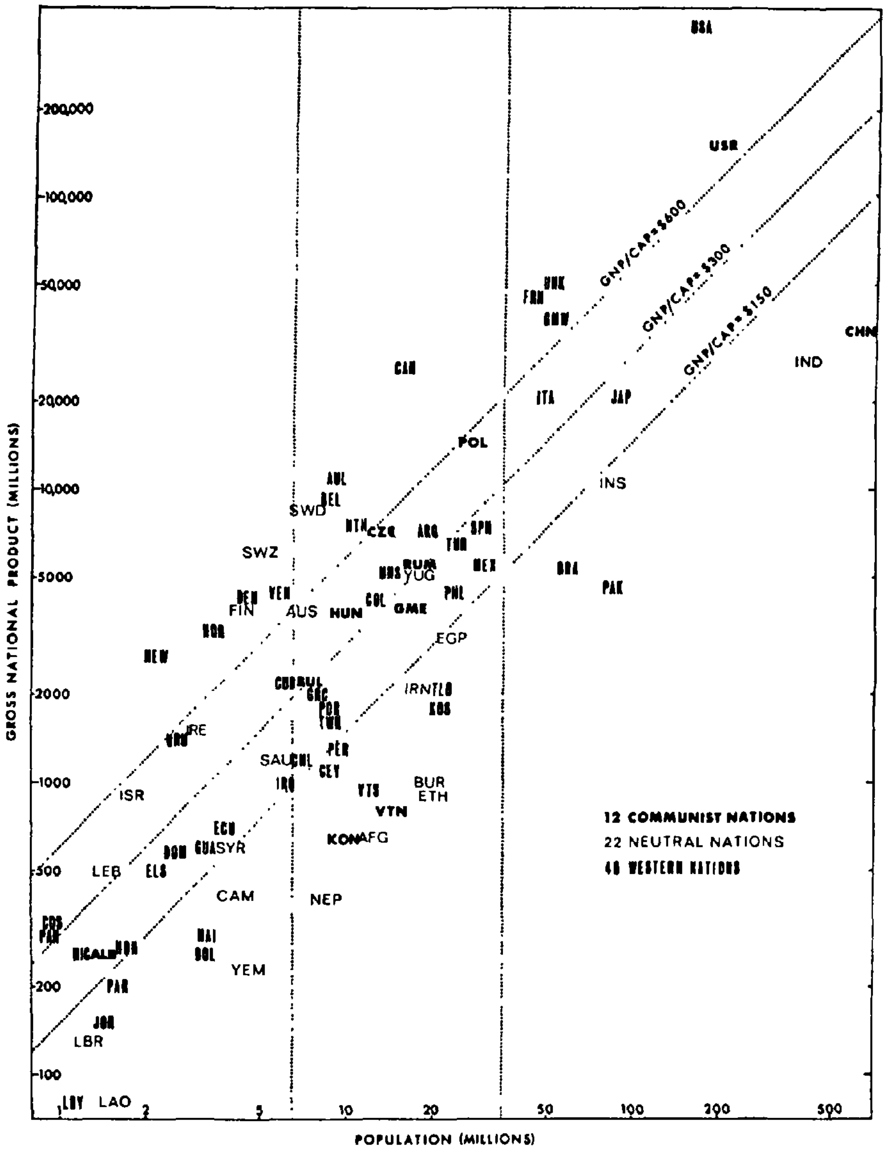


Fig. 1.—Population, GNP, and GNP per capita for eighty-two nations

Nations in the same geographical location tend strongly to have similar size, wealth, and politics. (This last variable is indicated in Fig. 1 by lettering style: bold for Communist nations, light for neutrals, tall for Western nations.) France, Italy, West Germany, and the United Kingdom all have populations of about fifty million, per capita GNP's considerably above average, and Western alliances. Haiti, the Dominican Republic, and the Central American nations—Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama—have very small populations and per capita GNP's somewhat below the world average. The four Scandinavian nations, Belgium, and the Netherlands, all have high GNP's and populations between 3 and 11 million. Another grouping comprises the seven Eastern European nations, all of medium size and somewhat higher than average per capita GNP: East Germany, Poland, Czechoslovakia, Hungary, Yugoslavia, Rumania, and Bulgaria.

Among each of the three political orientations—Communist, neutral, and Western—there are nations that are rich and poor, large and small. The result is that politics, too, is empirically independent—of both (log) population and (log) per capita GNP. This essential lack of correlation between size, wealth, and politics is of course not a necessity; it simply happens to be true at present as a result of the complex of political, economic, demographic, and other influences that have operated over decades and centuries. Whatever the cause, though, it means that, for example, the average nation of Western politics is no richer than the average Communist nation. This is true even though the Western nations as a group have a greater over-all wealth per individual, since as it happens, the largest Western nation is the richest, whereas the largest Communist nation is the poorest.

Table *2* displays the national groupings that size, wealth, and politics produce. The dividing lines are somewhat arbitrary, though the gap of ten million between the population of France and Mexico appears to create a reasonable division. The divisions of per capita GNP are the same as in Figure 1. Nations with per capita GNP over $600 appear fairly distinct from the others, though at lower levels the groups are less sharply discriminated. Nonetheless, nations that are grouped on size, wealth, and politics are generally similar on a large number of other characteristics as well. To see on just what other characteristics such nations are similar means determining with what characteristics these three dimensions correlate.

IV. CORRELATES OF SIZE, WEALTH, AND POLITICS

To call size, wealth, and politics important means, in the present context, in part simply that they relate to many other variables. Knowing these three enables one to predict a large number of other characteristics—at a level, the present analysis suggests, probably higher than that achieved by nearly any other set of three variables. If one were to know but three characteristics of a nation, then population, GNP per capita, and political orientation would seem to be a good choice.

THE USE OF CORRELATION

Just how well the other variables are predicted is indicated by their correlations, in Table 3, with each of the three dimensions. This table, as explained earlier, may be viewed as a matrix of factor loadings on these three factor-variables,[41] but it is more direct to consider it at its simplest—just as correlations between variables. Correlation, however, is not the only way—or the most usual—to present cross-national relations, and so it may be well to consider some of the characteristics that appear to make it especially suitable here.

[41] The multiple correlation, in the last column of Table 3, can also be interpreted factor-analytically, since its square equals the communality for the given variable with respect to these three factor-variables.

TABLE 2

82 NATIONS GROUPED BY SIZE, WEALTH, AND POLITICS[a]

GNP Per Capita	Population: Under 6½ Million		6½–35 Million		Over 35 Million	
Over $600	FIN	Finland	SWD	Sweden	USR	USSR
	SWZ	Switzerland	AUL	Australia	FRN	France
	DEN	Denmark	BEL	Belgium	GMW	Germany (West)
	NEW	New Zealand	CAN	Canada	UNK	United Kingdom
	NOR	Norway	NTH	Netherlands	USA	United States
	VEN	Venezuela				
$300–$600	IRE	Ireland	CZE	Czechoslovakia	ITA	Italy
	ISR	Israel	HUN	Hungary		
	CUB	Cuba	POL	Poland		
	COS	Costa Rica	RUM	Rumania		
	LEB	Lebanon	AUS	Austria		
	PAN	Panama	ARG	Argentina		
	URU	Uruguay	COL	Columbia		
			UNS	Un. So. Africa		
$150–$300	ALB	Albania	BUL	Bulgaria	JAP	Japan
	SAU	Saudi Arabia	GME	Germany (East)		
	DOM	Dominican Rep.	YUG	Yugoslavia		
	ECU	Ecuador	CHL	Chile		
	ELS	El Salvador	GRC	Greece		
	GUA	Guatemala	MEX	Mexico		
	HON	Honduras	PHL	Philippines		
	IRQ	Iraq	POR	Portugal		
	NIC	Nicaragua	SPN	Spain		
			TAI	Taiwan		
			TUR	Turkey		
Under $150	MON	Mongolia	KON	Korea (North)	CHN	China
	CAM	Cambodia	VTN	Vietnam (North)	IND	India
	LAO	Laos	AFG	Afghanistan	INS	Indonesia
	LBR	Liberia	BUR	Burma	BRA	Brazil
	LBY	Libya	EGP	Egypt	PAK	Pakistan
	SYR	Syria	ETH	Ethiopia		
	YEM	Yemen	NEP	Nepal		
	BOL	Bolivia	IRN	Iran		
	HAI	Haiti	CEY	Ceylon		
	JOR	Jordan	KOS	Korea (South)		
	PAR	Paraguay	PER	Peru		
			TLD	Thailand		
			VTS	Vietnam (South)		

[a] Within each of the twelve size-wealth combinations, nations appear in order of political orientation: Communist nations (if any) first, then neutrals, then Western nations. Three-letter abbreviations are those used in Figure 1.

The most obvious difference is in the greatly reduced bulk achieved by representing each relation by a single value, rather than by a separate table. Presented by cross-classification as in Banks and Textor,[42] the bivariate correlations of Table 3 would require about seventy journal pages of two-way tables. To present the n-way tables that the multiple correlations summarize would require as much additional space. The gain, however, is more than space alone, for the compactness also makes it much easier to consider the entire structure of relations.

At the same time correlation provides a more summary output measure, it also recognizes finer distinctions in the input data. Instead, for example, of classifying Burma and Indonesia into the same population category (as does the above cross-tabulation), correlational analysis simply employs their precise values—20 and 82 million.[43]

Correlation also specifies the magnitude of a relation, not just its statistical significance. Too often when tabular relations are analyzed, only the significance level is computed (as with χ^2); magnitude is not assessed, though subsequent interpretation often implicitly assumes it to be higher than it is. Knowledge of the actual correlation might temper such interpretation.

The present analysis, for example, finds correlations far from perfect between characteristics sometimes considered as almost invariable concomitants. Urbanization (proportion of population in cities over 20,000) and industrialization (proportion of population working in industry) might be an example; they actually correlate but .69, showing that somewhat less than half their variance is in common. In general, the direction of most correlations displayed in Table 3 may not be surprising, yet knowing the level of correlation adds considerable precision.[44]

ALLOCATION OF VARIABLES TO DIMENSIONS

To clarify how these variables group together, they have been classified by the dimension or dimensions to which they relate. The first section of Table 3 presents fifteen variables that relate mainly to size; the second section presents sixty-one variables relating mainly to wealth; the third section, twenty-four variables relating mainly to politics. The fourth section presents twenty-five variables relating to both size and wealth, and the following four sections present thirty variables relating to other combinations of two and three dimensions. Finally, the last section presents thirty-six variables not highly related to any of the three dimensions. Altogether, 191 variables are presented. Omitted are a number of rated variables extensively analyzed elsewhere,[45] and a few variables whose construction is too complex to describe adequately in Table 3.

[42] Banks and Textor, *op. cit.*

[43] Like a fourfold table, a product-moment correlation fails to take account of non-linear relations. Frequently, however, transformations (e.g., logarithmic) of the original continuous variables will decrease the amount of systematic non-linearity If not, polynomial regression (using, e.g., x, x^2, x^3) may be employed. Interactions may be considered by using cross-product terms (e.g., xy, x^2y, xyz).

[44] Correlation frequently is useful as an initial and gross screen, even when one eventually wants to examine individual nations. Ginsburg (*op. cit*, p. 6), using similar cross-national data, but quite different presentation, suggests a similar screening procedure. His *Atlas of Economic Development* has a map for each variable, and the map for per capita GNP folds out to place it side-by-side with the map for any other variable. Then per capita GNP can be compared with the other variable; one scans back and forth between the two maps, looking for correspondences. In this way, one can see in general for which other characteristics nations are high and low in the same way they are for per capita GNP. But this information, of course, is summarized in the correlation. This suggests computing correlations first, then, for those variables whose correlation proves of interest, consulting a map or other representation that gives values for individual nations.

[45] Rudolph J. Rummel. "Dimensions of Conflict Behavior within and between Nations," *General Systems Yearbook*, VIII (1962), 1–50.

TABLE 3

CORRELATION OF POPULATION, GNP PER CAPITA, AND POLITICAL ORIENTATION WITH 191 NATIONAL CHARACTERISTICS

Variable[a,b]	N	Mean[c] and Units[d]	Transformation	Correlation: Population	Correlation: GNP/cap.	Correlation: Politics
A. 15 Variables Related Mainly to Size						
5 Population	82	30,700,000	Log X	1 00	−.04	−.10
157. Population with territories	81	33,200,000	Log X	98	− 01	− 07
57. Military personnel	80	266,000	Log X[e]	.79	.15	− 29
47. Arable national land area	80	146,000 sq. km.	Log X	84	00	− 12
48. National area	82	1,260,000 sq. km.	Log X	.57	− 06	00
6. Population/national land area	81	63/sq km.	Log X	32	.03	− 15
62. Potential energy resources	74	448×10^{12} kwh.	Log X	70	37	−.13
196. Number of states contiguous	82	3 7	$\sqrt{X}$	32	− 06	−.23
10. Pop. largest city/largest 4	79	61%	---	− 32	− 13	16
146. Trade/GNP	69	38%	---	− 61	00	24
218. Exports/GNP	71	17%	---	− 39	05	21
142. Translations/domestic books	36	13%	---	− 57	26	− 29
118. Pop. largest religion/pop.	60	82%	X^2	− 38	− 18	22
61. Federalist (vs. unitary) govt.	82	22%	---	34	.17	.12
17. Average length last 2 govts.	69	4 9 yrs.	Log X	30	− 05	− 20
B. 61 Variables Related Mainly to Wealth						
127. GNP/pop	75	$411/cap.	Log X	− 04	1 00	04
30. Fixed capital formation/GNP	38	17%	---	− 15	55	− 06
116. Energy consumption (coal equivalent)/pop.	78	1.1 tons/cap.	Log X	.16	.86	01
115. Potential energy resources/pop.	74	$6\ 5\times10^{9}$ kwh/cap.	Log X	27	.53	− 06
22. Political development[f]	71	31	---	− 07	69	34
104. Govt. revenue/govt. expenditures	73	92%	X^2	− 12	35	− 10
204. Import duties/imports	54	17%	$\sqrt{X}$	−.11	− 48	02
1. Agricultural population/pop.	66	49%	---	− 08	−.84	− 21
105. Agric workers/labor force	72	49%	---	−.18	−.79	− 07
2. Agricultural production/GNP	66	30%	---	− 11	− 74	− 07
9. Pop. of cities 20,000+/pop.	77	24%	---	.15	70	21
121. Industrial workers/pop.	71	4 6%	Log X	− 05	84	− 09
141. Industrial output/ind workers	44	$2,040/cap.	Log X	.03	.75	.12

[a] Most variables are taken from the *Demographic Yearbook*, *Statistical Yearbook*, or other UN publications, though several other sources ar
For the source, and full definition of each variable, see Rummel *et al*, *op cit* (see n. 1 above).

[b] 165 of the variables are for the single year 1955, 26 others are for a year or years as follows 1, 1944–58, 8, 1953–57; 30, 1956, 43, 19
6, 1958; 49, 50, 1931–40, 63, 96, 212, 1956 or 1957, 91–94, 1950, 150, 152, 153, 154, 1954–56, 156, 223, 1954–57, 159, 160, 183, 224, 1954, 182,
89, 1955–58.

[c] Means are per nation· values are computed separately for each nation (on the untransformed data), then averaged Variables cumulate
ime (e g., GNP) are reported for a one-year period.

[d] When no units are specified, the variable is either a frequency count (most commonly of persons) or a rating (in which case its range is
llowing the variable name).

[e] One nation, whose value was more than 5 standard deviations below the mean after the transformation, was eliminated

[f] A rating by Phillips Cutright (*op cit.*, see n. 7 above) of legislative party competitiveness and executive responsibility.

TABLE 3 – *Continued*

Variable[a,b]	N	Mean[c] and Units[d]	Transformation	Correlation: Population	Correlation: GNP/cap	Correlation: Politics	Correlation: All 3
B 61 Variables Related Mainly to Wealth—*Continued*							
122 Motor vehicles/pop.	77	023/cap.	Log X	– 14	84	30	89
140 Air passenger travel/pop	58	48 km/cap.	Log X	– 27	65	20	71
75 Road length/national land area	79	32 km/sq km.	Log X	18	61	– 03	64
76 RR length/national land area	81	3 1 km/sq km	Log $(100X+1)$	24	56	09	62
77 RR length/$\sqrt{\text{area} \times \text{pop}}$[g]	82	39 km/km -persons[1/2]	Log $(X+1)$	13	70	08	72
125 Railroad freight/pop.	67	640 ton-km/cap.	Log $(X+1)$	34	67	– 22	79
3. Cinema attendance/pop.	76	6 9/cap.	$\sqrt{X}$	03	72	– 01	72
15 Newspaper circulation/pop .	79	12/cap/day	$\sqrt{X}$	07	88	02	88
4 Newsprint consumption/pop	66	5 4 kg/cap.	Log X	– 01	86	12	87
126. Book titles published/pop.	64	21/100,000	Log X	10	57	– 24	63
37 Library circulation/pop.	38	1 4/cap	Log X	– 09	79	– 23	84
112 Telephones/pop	76	045/cap	Log X	– 05	90	17	91
113 Radio receivers/pop. ..	78	11/cap	Log X	– 03	83	16	86
114 Domestic mail/pop.	60	57/cap.	Log X	04	79	09	80
117 Foreign mail sent+recd/pop	47	8 5/cap	Log X	– 27	68	00	72
183 Intl organizations headquartered	80	15	Log $(X+1)$	32	62	18	73
201 Foreign visitors	51	1,101,000	Log X	24	62	15	69
216 Foreign visitors/pop.	51	8 7%	Log X	– 38	58	24	70
212 Foreign col. students/all stud	55	5 2%	$\sqrt{X}$	– 26	34	– 06	42
43 Primary pupils/pop 5 14 yrs	71	50%	---	09	.79	– 06	80
103 Female pri. & sec. stud /stud	74	41%	X^2	– 01	65	04	65
45 Second & higher students/pop	82	2 1%	$\text{Sin}^{-1}\sqrt{1X}$	27	66	20	.75
14. Illiterates 10 yrs.+/pop. 10 yrs +	64	44%	$\text{Sin}^{-1}\sqrt{01X}$	– 09	– 83	– 10	.84
35 Tuberculosis deaths/pop	54	34/100,000	Log X	30	– 55	– 14	.62
36 Typhoid deaths/pop	63	2 9/100,000	Log $(10X+1)$	05	– 62	22	66
51 Heart disease deaths/pop	50	160/100,000	$\text{Sin}^{-1}\sqrt{001X}$	16	69	– 31	76
52 Cancer deaths/pop	51	102/100,000	---	09	72	– 21	75
71 % Dwellings with running water	32	45%	---	.18	65	03	68
49. Mean temperature	71	16° C	---	– 16	– 62	28	.70
53 (Cal consumed – required)/req..	34	3 8%	$(X+1\ 8)^2$	– 24	80	– 14	84
39 Sugar supply/pop	47	27 kg/cap.	---	– 24	66	16	70
38 Food expend /total priv. exp.	50	44%	---	28	– 74	– 14	79
54 Pop /hospital beds	80	1,020/bed	Log X	07	– 83	– 07	84
55 Population/physicians . .	79	21,000/phys.	Log X	– 01	– 74	– 10	75
8. Live births/pop	72	31/1,000	---	– 22	– 55	05	59
56 Infant deaths/live births	64	70/1,000	---	01	– 67	– 08	67
36 Birth rate & inf mor error: 0-4[h]	60		---	– 23	– 64	18	71
33 UN population error estimate[i] ...	74		Log $(X+1)$	– 25	– 44	– 13	53
34 Life expectancy	55	56 yrs.	---	05	81	– 15	82
27 Population 0-15 yrs/pop	59	34%	---	– 15	– 71	28	78

[g] From Norton Ginsburg, *op cit* (see n 20 above), p 64.

[h] Sum of separate 0–2 ratings of error in each measure, based upon UN assessment of coverage and completeness of registration.

[i] "$E = B + tT$, where E is the range of per cent error in the current estimate, B the range of per cent error imputed to base data, t the number of years since base data were established, and T the range of annual per cent error imputed to the time adjustment" (*Demographic Yearbook*, 1960, 8). Specified values for given categories of B, t, and T are applied to the roughly corresponding categories listed for each nation for 1955 population, in *Demographic Yearbook*, 1956, pp 135 50

TABLE 3—*Continued*

Variable[a, b]	N	Mean[c] and Units[d]	Transformation	Correlation: Population	Correlation: GNP/cap.	Correlation: Politics	Correlation: All 3
B 61 Variables Related Mainly to Wealth—*Continued*							
117. Native born/pop.	58	95%	X^{3a}	− 21	− 42	− 18	52
25. Mongolians/pop..	76	20%	---	.18	− 41	− 18	.47
24. Caucasians/pop.	64	20%	---	03	73	− 07	73
100. Protestants/pop.	76	17%	Log $(X+1)$	09	60	10	62
102. Mohammedans/pop	75	17%	Log $(X+1)$	04	− 50	− 22	54
101. Buddhists/pop..	71	6 7%	Log $(X+1)$	23	− 37	− 15	45
119. Pop. largest lang. group/pop.	66	77%	---	01	.35	− 07	36
69. Language groups = 1% of pop.	67	2 6	Log X	.07	− 37	− 16	41
C. 24 Variables Related Mainly to Politics							
185. Politics· Comm = 0, neu = 1, West = 2	82	1 4	---	− 10	04	1 00	1 00
187. Commitment: 1 = non-neutral	82	73%	---	06	.17	36	40
193. UN votes: % with U S − % against	56	20%	---	− 23	34	72	79
192. UN votes: % with U S S.R. − % against	56	28%	---	11	− 39	− 71	79
131. Engl. translations/Engl. + Russ.	25	76%	X^2	− 15	.20	85	87
132. Engl. translations/all trans	27	38%	---	− 21	10	83	84
133. Russ. translations/all trans.	35	13%	Log $(10X+1)$	− 01	08	− 70	71
213. Air dist. to U S./dist. to U S + U.S.S.R.	80	69%	$\sin^{-1}\sqrt{01X}$	30	− 02	− 55	61
190. U S. economic aid received	63	$33,000,000	Log $(X\cdot 10^{-6}+1)$	16	− 18	60	65
189. U.S. aid rec / U S. aid + U S S R. aid.	68	77%	---	− 09	15	.79	80
211. Western trade/west. + Comm trade	69	92%	---	− 20	− 14	57	60
147. Sea-borne trade/GNP	69	3 4 kg/$	Log $(X\cdot 10^{8}+1)$	14	17	41	47
223. (UN contr /GNP)/(GNP/cap)	78	004%/$100 GNP/cap.	Log $(X\cdot 10^{7}+1)$	20	− 09	43	50
214. Emigrants/pop.	43	56%	Log X	− 05	25	52	57
215. Immigrants/pop.	52	47%	Log X	− 17	29	55	62
28. Labor force/pop	67	42%	---	09	13	− 58	59
106. Female workers/labor force.	65	28%	---	09	− 04	− 35	3[illegible]
96. Law students/college students	61	12%	Log $(X+1)$	− 05	− 07	33	3[illegible]
99. Roman Catholics/pop.	77	38%	$\sin^{-1}\sqrt{01X}$	− 13	19	34	39
98. Religious holidays..	80	5 1	$\sqrt{X}$	− 09	00	44	4[illegible]
68. National holidays	80	10	Log X	− 08	− 11	58	5[illegible]
89. Protein consumpt./calorie con	49	028 gm/cal	---	.06	.17	− 42	4[illegible]
19. Freedom of opposition: 0-2[j]	80	1 4	---	− 13	22	58	6[illegible]
231. Error in GNP: rating 0-2[k]	66	24	---	28	.05	− 77	7[illegible]
D 25 Variables Related to Both Size and Wealth							
11. GNP..	75	$13,000,000,000	Log X	82	.55	− 17	9[illegible]
138. National income	67	$11,000,000,000	Log X	.80	.49	− 08	9[illegible]

[j] (0) none, (1) restricted (opposition not allowed to campaign for control of government); (2) unrestricted.
[k] Rating based upon UN notes on modes of estimation of GNP and of exchange rate.

TABLE 3—*Continued*

Variable[a,b]	N	Mean[c] and Units[d]	Transformation	Correlation: Population	Correlation: GNP/cap	Correlation: Politics	Correlation: All 3
D 25 Variables Related to Both Size and Wealth—*Continued*							
13 Electricity generation	78	19×10^9 kwh	Log X	62	70	− 03	95
64 Steel production .	51	5,200,000 tons	Log (001X+1)	59	61	− 01	66
12 Energy consumption (coal equiv)	78	40,000,000 tons	Log X	68	61	− 09	93
65 Energy production (coal equiv.)	76	40,000,000 tons	Log X	69	51	− 14	87
134 Energy prod. (coal equiv)/pop	76	1 4 tons/cap.	Log X	46	60	− 14	78
139 Energy production×population	76	4 7×10^{16} ton-persons	Log X	80	42	− 12	92
135 Defense expenditures. . .	65	$996,000,000	Log X	.74	47	− 09	88
58. Local political autonomy: 0-4[l]	37	2 5	...	34	46	− 21	60
73 Air passenger travel	58	1 1×10^9 pass.-km.	Log X	38	54	22	71
74 Motor vehicles. . .	77	970,000	Log X	56	70	14	93
37 Accidental deaths/pop.	49	41/100,000	...	26	30	09	41
78 Railroad length	79	15,000 km.	Log (X+1)	59	41	09	74
129 Rail freight/rail length	64	2,400,000 tons/km	Log X	58	41	− 26	75
145 Trade (exports+imports)	73	$2,300,000,000	Log X	61	68	− 03	93
203 Exports . .	76	$1,100,000,000	Log X	62	65	03	91
110 Customs tax revenue/total rev	58	26%	$\sqrt{X}$	− 47	− 42	02	64
219 Foreign mail sent+received	48	130,000,000	Log X	55	62	07	85
200 Foreign students in country	55	2,900	Log (X+1)	58	58	− 09	83
182. Embassies & legations in country	67	27[m]	--	42	54	22	73
151 Embassies & legations abroad.	67	36[m]	--	61	56	11	85
181 Representatives to UN .	57	11	Log X	58	38	17	73
184 UN assessment: % of total	56	1 8%	Log X	76	56	− 07	95
156 UN tech assistance contributed	79	$1,100,000	Log ($X\cdot10^{-4}$+1)	53	53	27	82
E 10 Variables Related to Both Wealth and Western Politics							
159 Memberships in intergovt. orgs.	80	30	...	23	.62	56	87
160 Memberships in non governmental international organizations	80	213	Log (X+1)	28	.67	42	85
148 Accept intl. court justice: 0 2[n]	82	.57	...	− 19	27	.38	48
16 Freedom of press. rating 0 2[o]	81	1 1	. . .	− 03	33	52	59
20 Voter choice 0-4[p] . .	80	2 7	...	− 04	34	40	51
97 Minimum voting age	65	19 6 yrs.	...	09	27	40	49
58 Possession of colonies: yes=1	82	15%	...	15	50	32	61
26 Natl area/area with territories	82	91%	...	−.14	− 36	− 26	47
91 Air distance from U S..	81	6,250 km.	---	18	− 31	− 25	42
32 % of missing data .	82	18%	---	− 25	− 65	− 50	86

[l] Rating of extent to which council and executive of local and intermediate government are elected rather than appointed

[m] The discrepancy between these two means represents the growth of diplomatic representation from 1950 (embassies and legations in own country) to 1955 (embassies and legations abroad)

[n] (0) do not accept jurisdiction, (1) accept with reservations, (2) accept unconditionally.

[o] Based upon a United Press survey of world wide censorship as of December, 1954 (*New York Times*, January 9, 1955)

[p] (0) no voting, (1) single party, no effective primary, (2) single party with effective primary, (3) multi-party, extreme parties banned, (4) multi-party unrestricted.

TABLE 3—*Continued*

Variable[a,b]	N	Mean[c] and Units[d]	Transformation	Correlation: Population	Correlation: GNP/cap.	Correlation: Politics	Correlation: All 3
F. 4 Variables Related to Both Wealth and Non-Western Politics							
33. Manufacturing production/GNP	55	24%	---	.21	.52	−.49	.73
144 Military personnel/pop	79	87%	Log $(X \cdot 10^4+1)$[e]	.02	.31	− 26	41
124. Comm party membership/pop	81	1.1%	Log $(1000X+1)$	08	.40	− 43	58
197. UN fellowships received	81	38	$\sqrt{X}$	.02	−.37	39	55
G 7 Variables Related to Size, Wealth, and Western Politics							
152. Treaties contracted	82	23/yr.	Log $(X+1)$	37	59	48	86
153. Military treaties contracted	82	2 1/yr.	Log $(X+1)$	.33	33	39	62
150. Multilateral treaties contr.	82	7 6/yr.	Log $(X+1)$	.26	57	40	75
198. UN fellows in country	80	52	Log $(X+1)$	.29	41	52	73
199. Immigrants	52	34,000	$\sqrt{X}$	28	28	40	58
130. Seaborne trade	70	19,000,000 tons	Log $(\ 001X+1)$	.45	37	39	73
111. Coastline/$\sqrt{\text{area}}$	57	6 9	$\sqrt{X}$	.25	34	.45	62
H 9 Variables Related to Size, Wealth, and Non-Western Politics							
40. Land distribution equality[q]	40	26%	---	36	25	− 48	56
41. Smallest prop. owning 50% land	40	6 7%	Log X	30	29	− 37	[illegible]
107. Science books publ/all books	61	17%	---	32	41	− 47	70
63. Sci. & engr. stud /higher stud.	64	24%	---	.30	30	− 46	[illegible]
26. Marriages/pop.	61	7.4/1000	X^2	33	31	− 50	66
72. Divorces/total married	38	37%	---	24	37	− 34	[illegible]
7. Population growth rate	77	1 9%	---	− 28	− 25	28	46
209. Agricultural exports/exports	59	59%	$\text{Sin}^{-1}\sqrt{\ 01X}$	− 48	− 29	39	[illegible]
202. Raw materials exports/exports	73	74%	X^2	− 43	− 52	31	[illegible]
I 36 Variables Not Highly Related to Size, Wealth, or Politics							
67. Nationalities≥1% of pop.	67	2 1	Log X	− 04	24	− 15	[illegible]
70. Ethnic groups≥1% of pop.	70	2 9	Log X	− 07	− 17	01	[illegible]
120. Pop largest ethnicity/pop.	67	74%	---	01	23	− 23	[illegible]
23. Negroes/pop.	64	6 2%	Log $(10X+1)$	− 24	− 19	31	[illegible]
66. Religious groups≥1% of pop	68	2 4	---	23	− 10	− 17	29
108. Religious books publ/all books	61	5 9%	$\sqrt{X}$	09	− 08	17	21
91. Need for achievement[r]	38	− 13 std. scores	---	08	− 15	07	19
92. Need for affiliation[r]	38	− 08 std. scores	---	− 17	29	10	[illegible]
93. Need for power[r]	38	− 08 std. scores	---	13	− 15	24	[illegible]
94. Other directedness rank 1-38[r]	38	19	---	− 30	26	− 21	40

[q] Closeness of actual Lorenz curve to one of equal distribution From Bruce M Russett *et al*, *op cit* (see n 9 above)

[r] From David C McClelland, *op cit* (see n 3 above), pp 461 62, based upon stories in children's readers.

TABLE 3—*Continued*

Variable[a,b]	N	Mean[c] and Units[d]	Transformation	Correlation: Population	Correlation: GNP/cap	Correlation: Politics	Correlation: All 3
I 36 Variables Not Highly Related to Size, Wealth, or Politics—*Continued*							
44 Primary pupils/prim. teachers .	79	34/teacher	Log X	−04	−26	19	33
46 Govt educ. expend./govt. expend	67	12%	---	−17	−05	28	32
28 Government expenditure/GNP	67	17%	$\sqrt{X}$	−12	12	01	17
36. Defense expenditure/GNP	71	4 2%	Log X	23	02	07	25
43 Defense expenditure/Govt exp .	69	22%	$\sqrt{X}$	27	−12	14	33
29 Pub. adm. & defense exp /GNP .	48	8 4%	---	−02	02	−18	18
09 Income & wealth taxes/revenue	64	30%	---	22	27	04	36
31 Unemployed/economically active	32	5 1%	---	−31	−17	18	39
08 Imports/imports+exports .	75	55%	$\sqrt{X}$	−28	−03	14	30
10 Agric exports/agr exp +imp.	53	61%	$\sin^{-1}\sqrt{.01X}$	−19	−29	02	35
06 Leading export/all exports .	75	46%	---	−24	−21	−10	35
07 Immigrants/immigts +emigrants	33	53%	---	−13	20	−21	33
20 Foreign mail sent/sent+recd .	48	43%	---	04	11	−04	12
21 Age of nation 0 5[e].	82	2 7	---	11	02	−13	16
18 Revolutionary govt yes=1	77	10%	---	15	−18	−04	22
59 Legality of last 2 govts : 0 2[f]	72	1 4	---	01	29	16	33
60 Number of political parties	79	3 8	$\sqrt{X}$	08	05	18	21
95 Monarchy: yes=1, no=0	82	24%	---	−10	−07	09	14
88 British Commonwealth member	82	10%	---	21	14	20	33
54 Military treaties/all treaties	82	8 8%	Log (X+1)	08	−16	09	20
24 UN delinquencies/assessment %	56	$59,000/% assess.	Log (.001X+1)	00	−26	10	27
95 Air distance from U.S.S.R	81	3,350 km	$\sqrt{X}$	05	−09	24	26
27 Natl pop /pop. with territories .	82	97%	---	−13	−29	−20	37
23 Population/arable land	80	376/sq km	Log X	12	−05	−04	13
88 Arable land/total land	80	19%	$\sqrt{X}$	27	14	−22	36
50 Mean rainfall	71	118 cm/yr	$\sqrt{X}$	−21	−12	12	27

[e] Date country first became politically recognizable unit (0) 1946 1955, (1) 1900 1945, (2) 1800 1899, (3) 1500 1799, (4) 1 1499, (5) B.C.

[f] (0) both extra legal, (1) one extra legal, (2) both legal.

If the highest of the three correlations for a variable reached at least .30, the variable was considered to be related to that dimension. Then, if the second highest correlation was as much as two-thirds the highest correlation (and at least .25), the variable was considered to be related to both dimensions. Finally, if the lowest correlation was as much as two-thirds of the average of the two higher (and at least .25), the variable was considered to be related to all three dimensions.[46] These standards, though arbitrary, appeared to provide reasonable allocations; if the reader considers other standards more desirable, he can modify the allocations, as Table 3 contains all the necessary information.

It is interesting—given the near independence of the three dimensions—that variables relate to some combinations of them much more frequently than to others. Twenty-five variables (in section *D* of the table) relate in the same direction to both size and wealth, but no variables relate positively to one and negatively to the

[46] For correlations computed on substantially fewer nations, the standards were raised somewhat, and in borderline cases of whether to allocate a variable to a second or third dimension, substance was sometimes considered

other. Thus, there are many variables that differentiate larger, wealthier nations from smaller, poorer nations, but no variables that differentiate large, poor nations from small, wealthy nations. The combinations of size and wealth that occur in these variables are those where the two cumulate their effects: size plus wealth equals high power.[47]

For each variable, Table 3 presents, in addition to its correlations, the number of nations for which it was available, its mean, and transformation, if any. The mean and units are intended to provide an idea of the scale of the variable and its approximate world-wide incidence. Means are *per nation:* for example, per capita GNP is computed separately for each nation, then averaged, rather than dividing the world GNP by the world population. This produces an unweighted average in which each nation is counted equally; this accords with the present interest in characteristics of nations rather than individuals as the unit of analysis. The identification number for each variable refers to the larger analysis,[48] which also provides the complete definition and source for each variable.

1. *Variables related mainly to size (Table 3,* A).—In describing human societies, the characteristic that is probably the most obvious—and not the least important—is simply the number of humans a society contains. Davis emphasizes that "a large population is an indispensable asset to a nation that would be powerful."[49] Robinson, in summarizing the economic consequences of size, concluded tentatively that "Most of the major industrial economies of scale could be achieved by a relatively high income nation of 50 million [but] that nations of 10–15 million were probably too small to get all the technical economies available."[50]

Many important variables—like the size of the labor force, for example—would, if included, have correlated very highly but unsurprisingly with total population itself. Most such variables were excluded, and so the relations with population in Table 3, *A* are less obvious and more interesting. Military personnel is one absolute quantity that *was* included (because of its implications for power), but it correlates only .79 with population; this leaves considerable room for variation among nations in the proportion in the military—a variable that shows up later on other dimensions.

Reasonably enough, more populous nations have larger areas ($r = .57$), but even more, they have larger amounts of *arable* land ($r = .84$). Still, they are more densely populated ($r = .32$). For larger nations, trade forms a smaller proportion of the GNP ($r = .61$)—a relation that Deutsch and Eckstein found to exist within nations over time as well.[51] Larger nations are also more religiously diverse, and more likely to have a federalist government, of longer tenure.

2. *Variables related mainly to wealth (Table 3,* B).—In the present analysis (and perhaps more generally), the most important way that nations differ is in being rich or poor. Of the wide range of variables included in this analysis, far more are predicted by per capita GNP than by the other dimensions. The variables so predicted

[47] Possibly this is analogous to the combination of mental abilities: it is the combination of consistently positive attributes that produces remarkable consequences. Correspondingly, there appear to be more single terms to describe those who are generally bright than those, for example, who are good quantitatively but poor verbally, or vice versa.

[48] Rummel *et al., op. cit.*

[49] Kingsley Davis, "The Demographic Foundations of National Power," in Monroe Berger, Theodore Abel, and Charles H. Page (eds.), *Freedom and Control in Modern Society* (New York: D. Van Nostrand Co., 1954), pp. 206–43.

[50] E. A. G. Robinson, *Economic Consequences of the Size of Nations* (New York: St. Martin's Press, 1960), p. xviii.

[51] Karl W. Deutsch and Alexander Eckstein, "National Industrialization and the Declining Share of the International Economic Sector, 1890–1957," *World Politics*, XIII (January, 1961), 267–99.

represent the many and diverse elements of economic development—highly, though not perfectly, correlated. In Table 3, *B*, they are grouped into more or less homogeneous sets, of which the first largely reflects more strictly economic variables.

The second set—variables 1 through 141—shows the high correlation of per capita GNP with both industrial employment and output per worker, and the high negative correlation with agricultural population and production. The correlation for the proportion of the population in cities over 20,000 confirms what Gibbs and Martin find for a smaller number of nations; they also report that two different measures of urbanization—one based upon urban agglomerations, the other upon administratively defined cities and towns—appear more comparable than sometimes thought.[52]

Various measures of transportation and communication also correlate highly with per capita GNP. Among these are the four (newspaper circulation, newsprint consumption, telephones, and domestic mail—all per capita) that constitute the communication index Cutright uses to predict political development.[53] Since both political development and communications correlate with per capita GNP, one might try to fashion an explanation of these relations that incorporated an economic component.

Cutright prefers to consider political development a function of communications and—for the sake of raising the correlation from .81 to .82—of urbanization as well, but not of economic level. Possibly political development is as well understood by considering communications and urbanization without economic level per se, but this would be hard to demonstrate.[54]

The next set of variables concerns educational practices. Wealthier nations not only place higher proportions of children in school but also higher proportions of females among those who are in school. In measures of health, a striking contrast exists: tuberculosis and typhoid death rates correlate about −.60 with wealth, but heart and cancer death rates correlate even higher in the positive direction. The single demographic variable relating most highly ($r = .81$) to per capita GNP is simply the number of years of life that the society gives a man. To a somewhat lesser extent, richer nations have older populations, lower birth rates, and lower infant mortality.

Racial and religious characteristics also correlate with wealth; richer nations have higher proportions of Caucasians and Protestants and are more homogeneous linguistically, while poorer nations have larger proportions of Mongolians, Buddhists, Mohammedans, and native-born persons.

Ratings of error, summed for birth rate and infant mortality, correlate −.64 with per capita GNP, and a rating of population error correlates −.44; these tend to confirm Hauser's observation that "In fact, the absence of both adequate economic and demographic statistics may itself be regarded as one of the indicators of economic 'underdevelopment.'"[55] The relation of these two measures of demographic error to per capita GNP is far from perfect, however; a measure of error in GNP itself is later shown to relate not at all to per capita GNP, but instead to political orientation.

By way of partial summary of this dimension, it is interesting to note its correspondence with Davis' formulation that "an

[52] Jack P. Gibbs and Walter T. Martin, "Urbanization, Technology, and the Division of Labor: International Patterns," *American Sociological Review*, XXVII (October, 1962), 667-77.

[53] Cutright, *op. cit.*

[54] Cutright's exclusion of per capita GNP illustrates a problem in using multiple regression with highly correlated predictors. A variable correlating only slightly higher with the dependent variable may receive a much higher regression weight; in a step-wise regression, a winner-take-all result may occur, so that a variable correlating slightly less is excluded altogether. The result, while predicting essentially as well as possible, may not provide a reasonable characterization of the phenomenon. This may suggest employing as predictors less highly related variables, which the present analysis helps to identify.

[55] Hauser, *op. cit.*, p. 98.

industrial population is one which has (1) the bulk of its people in nonagricultural pursuits, (2) a high proportion of its people in cities, (3) a sparsity of agriculturists on its agricultural land, (4) a high proportion of educated people, and (5) a combination of low birth rates and low death rates."[56] Among such concepts as industrialization, urbanization, economic development, communications development, and many others, there are, however, both conceptual overlap and empirical correlation. This strongly suggests the need for careful differentiation, when differences in fact exist, and of integration when they do not. Identifying such concepts with specific variables, and determining the empirical relations among these, should help in this process.

3. *Variables related mainly to politics* (*Table 3*, C).—Reasonably enough, the balance in a nation's relations with the Soviet Union and the United States on trade, aid, and UN votes correlates with the Communist-neutral-Western trichotomization. That these correlations are no higher than .7 reflects the substantial fluidity of international relations, irrespective of political orientation. Balance of English and Russian translations correlates higher than this, however, which suggests that the flow of information may follow bloc lines more closely than does the flow of money or votes.

Independent of politics, UN votes are also predicted by wealth: richer nations, regardless of political orientation, tend to vote with the United States, and poorer nations with the Soviet Union. Among other differences, Western nations have proportionately smaller labor forces and smaller proportions of females in the labor force. The proportion of females, however, contrary to the finding of Collver and Langlois for thirty-eight more developed nations, is unrelated to economic development.[57]

4. *Variables related to both size and wealth* (*Table 3*, D).—For nine of these variables, the multiple correlation (which results almost exclusively from correlations with population and per capita GNP) is above .90. For only three of these nine variables, however, does either dimension alone correlate as high as .80; thus it is clearly the joint relation that produces the high prediction. What size and wealth jointly produce is power: among these variables are national product, national income, defense expenditures, and various measures of energy production—all of which are frequently employed to index national power.

A number of measures involving trade and transportation also distinguish large and wealthy nations from others. Correspondingly, these nations are also highly active in international relations, both in bilateral relations and in the United Nations; assessments by the United Nations, it is seen, are almost perfectly predicted by size and wealth.

5. *Variables related to wealth and Western politics* (*Table 3*, E).—Characteristics associated with richer Western nations include the possession (in 1955) of colonies, greater participation in international organizations, freedom of the press, voter choice, and higher minimum voting age. These nations also had the fewest missing data.

6. *Variables related to wealth and non-Western politics* (*Table 3*, F).—Higher per capita GNP, among these eighty-two nations, predicts the relative size of the Communist party just as well as political orientation predicts it. Richer, non-Western nations also have a higher proportion of manufacturing production and of military personnel. Janowitz reports, however, that among forty-nine underdeveloped nations the proportion in the military is unrelated to economic development.[58] The difference

[56] Davis, *op. cit.*, p. 224.

[57] Andrew Collver and Eleanor Langlois, "The Female Labor Force in Metropolitan Areas: An International Comparison," *Economic Development and Cultural Change*, X (1962), 267–385.

[58] Morris Janowitz, *The Military in the Political Development of New Nations* (Chicago: University of Chicago Press, 1964).

in results for these two sets of nations emphasizes the value of analyzing groups of nations separately.

7. *Variables related to size, wealth, and Western politics* (*Table 3*, G).—The United States exemplifies nations high on these variables, all of which indicate high rates of international interaction: seaborne trade, numbers of various kinds of treaties, and number of students and immigrants in the country.

8. *Variables related to size, wealth, and non-Western politics* (*Table 3*, H).—Larger, richer, non-Western nations (like the Soviet Union) have more equality of land distribution, higher emphasis upon science, and higher marriage and divorce rates. Their opposite—smaller, poorer, Western nations—have higher population growth rates, and higher proportions of agricultural and raw material exports.

9. *Variables not highly related to size, wealth, or politics* (*Table 3*, I).—For the thirty-six variables in Table 3, *I*, the average absolute correlation with each dimension is only about .15. Thus, although the three dimensions predict most variables to a considerable degree, a number of variables are nearly independent of them. For some variables, the independence itself is of interest. For example, the 25 per cent of nations that were monarchies were about as likely to be rich as poor, large as small, and Western as non-Western. Poor nations spent just as large a proportion of their GNP on defense as did large ones, and Western nations spent similar proportions to non-Western nations.

Small correlations frequently indicate modest but consistent relations. Certainly, many theories have been promulgated on correlations no higher than .30—and frequently with good reason, considering the multiple causation of social phenomena. Thus, smaller relations may be important—but they do not serve to define the major concomitants of size, wealth, and politics as well as those variables that relate more highly.

The near independence between these variables and the three dimensions also suggests the presence of added dimensions. The more extensive analysis produced twelve additional factors, together accounting for additional variance almost equal to the 40 per cent accounted for by the first three factors.[59]

V. IMPLICATIONS

This research is relevant to the growing number of systematic, empirical, cross-national studies in such areas as political development, economic development, and comparative sociology, among others. Its three major implications concern the measurement, design, and analysis of these studies.

1. *Measurement: Size, wealth, and politics are basic dimensions of nations.*—They are "basic" in that they define important concepts, correlate with a large number of variables, and sort nations into relatively homogeneous groups. Together, these three dimensions account for 40 per cent of the variance among 236 national characteristics, correlated over eighty-two nations. The three dimensions are defined by single variables, themselves essentially uncorrelated: population, per capita GNP, and political orientation (Communist-neutral-Western). Each variable reflects a highly summary and general characteristic of the society: its total population, its total economy, its over-all political orientation. Each is measured with a reliability that, for that kind of variable, is relatively high: among demographic variables, total population is one of the more reliably measured; among economic variables, the same is true for GNP; and, among political variables, for international alliances.

2. *Design: Size, wealth, and politics should be considered in selecting nations and variables.*—First, these three variables themselves should be included in any study. Frequently their relations with other variables will be of direct interest. Even when

[59] Rummel *et al.*, *op. cit.*

this is not so, however, their inclusion promotes comparability; they correlate so widely with other variables that they make comparison between studies much more direct. Second, these dimensions should be considered in selecting a sample of nations. One may desire, for his particular purposes, that nations span the range of variation or that they be homogeneous, but he will rarely be indifferent. Whether variation is to be sought or avoided, size, wealth, and politics are useful because, to a large degree, they define what variation is. Third, variables should be selected with consideration for the way they relate to the three dimensions and to each other. One typically wants variables of several kinds, and more than one of each kind. In seeking the desired mix of representativeness and redundancy, it is helpful to know the structure of variation among national characteristics; size, wealth, and politics help identify this.

3. *Analysis: The effect of size, wealth, and politics should be systematically accounted for in analyzing other variables.*— The purpose in including these dimensions is less to replicate their importance than to control their effects in studying relations between other variables. Because these dimensions are so central, their control is particularly critical; three modes for effecting this control follow. One way is to separate groups: for example, to examine small, underdeveloped, neutral nations partially controls all three dimensions. Another way to reflect these dimensions is to norm variables to produce proportions, averages, or ratios, where the absolute quantity is divided by population or per capita GNP. A third way is to employ partial correlation or, equivalently, to examine residuals in regression analysis. For example, one may predict college education by per capita GNP ($r \simeq .7$), then seen which nations are more educated than their wealth predicts, and which less so.

One finds, in returning to the exemplar for the present research, that Lipset has made good use of deviant case analysis with just these variables. The Philippines, he notes, enrol larger proportions in college than do the much richer nations of Great Britain, Canada, and Australia. He ascribes this disparate proportion to American influence, and cites it as further evidence of how American values differ from those of these other English-speaking democracies. To identify this illuminating case, Lipset, one suspects, did not need to examine residuals from regressions. But how many more such instructive disparities might be uncovered by systematic analysis? The reader is invited to examine the data further for evidence on hypotheses that specially interest him.

UNIVERSITY OF CHICAGO

Toward a Theory of Societal Guidance[1]

Amitai Etzioni

ABSTRACT

An attempt to outline the basis for a macrosociological theory. The basic dimension is the ratio of guided over unguided processes. The central variables are those which characterize the guidance capacity and those guided. Mechanisms of societal guidance are explored in terms of downward controlling factors (knowledge, decision-making, and power) and upward consensus-forming processes as well as societal mobilization.

In an endeavor to develop a macrosociology, we focus on one central question: Under what conditions are societal processes more guided by the participants as against the conditions under which they are more "ongoing"? The higher the capacity to guide, the freer members of a society are of its history; the lower, the more they are subject to patterns they did not mold. We refer to societal units that have a relatively high capacity to guide their own processes as "active" and to those that have a relatively low capacity as "passive."

The degree to which an actor is active is affected by his cybernetic capacities, his relative power, and his capacity to build consensus. Each of these factors has both an internal and an external dimension: how much he knows about himself and about others, how much he can mobilize power over members *and* over non-members, and to what degree he can gain the support of subunits and of external units. Since for many purposes it is useful to treat cybernetic and power capacities together, we shall refer to them jointly as his ability to *control*. When his skill in building consensus is also taken into account, we refer to his ability to *guide*. Since we see the subunits and other units as having in principle the same capacities as the actor under study, his activation obviously cannot be optimized by maximizing his control capacities but by improving his combination of control and consensus-building, that is, his guidance mechanisms.

We turn now to explore the factors which affect the societal capacity to guide. Our approach is at first analytic in that each factor is examined as if all the others were held constant; in the last section we take a more synthesizing and historical view of actors that are becoming generally more active on all major dimensions. In the analytic section we compare briefly both societies and subsocieties. The societies we focus on are encapsulated in a state that serves as their chief organizational tool for both control and consensus-building. Similarly, the subsocietal actors are collectivities that have organizational "arms," such as a working class that has labor parties and trade unions. Societies without states and collectivities which are not organized are treated mainly for comparative purposes.

The purpose of the following discussion is "programmatic"; it seeks to illustrate

[1] This article was first written during my fellowship at the Center for Advanced Study in the Behavioral Sciences. I also benefited from a grant from the National Science Foundation (NSF-GS-1475) I am indebted to Sarajane Heidt, William J Goode, Paul F. Lazarsfeld, and Fred DuBow, as well as to Martin Wenglinsky, Nina Toren, and Miriam Gallaher for comments on earlier drafts. The article is the first publication to come out of a project whose conclusions are reported fully in the author's *The Active Society: A Theory of Societal and Political Processes*, to be published by The Free Press in 1968.

the kinds of factors and relationships on which a theory of societal guidance would focus and not to provide a full set of propositions, not to mention data, in support of such a theory. Those statements provided, however, have the basic format of propositions: they propose that, holding all other conditions equal, a change in a specific variable will correlate in a specific way with the active capacity of the unit under study.

I. CONTROL FACTORS

A. CYBERNETIC CAPACITIES

Societal units differ significantly in their capacity to collect, process, and use knowledge. This holds not only for corporations that compete for a market but also for political parties (Kennedy is believed to have used the social sciences more effectively than Nixon in the 1960 presidential campaign), federal agencies (the U.S. Air Force is thought to be more active in this respect than the U.S. Navy and the U.S. Army), and civic organizations (the National Association for the Advancement of Colored People's capacity to use information seems to have increased between 1955 and 1965).

The input of knowledge into a societal unit follows, we suggest, the same basic patterns of other inputs; that is, it might be blocked—and hence partially or completely lost for action purposes—at each stage of the process. The varying capacities of societal units for collecting information ("raw material" input) seem to be associated with economic affluence but not in a one-to-one relationship. If we were to order countries (or other societal units) by their average income per capita and then score their capacity to collect information, let us say, in terms of expenditure on research, we expect that the most affluent units would have a much higher capacity than the next affluent ones, while the remaining units would have few such capacities at all. Three powerful federal agencies in the United States, the Department of Defense, the National Aeronautics and Space Administration, and the Atomic Energy Commission, spent more of the federal research and development (R & D) funds than the other thirty-odd agencies combined, or 90.8 per cent of the available funds: Defense, 61 per cent; NASA, 20.3 per cent; AEC, 9.5 per cent. Three affluent states out of fifty gained more than 50 per cent of these R & D funds: California, 38.5 per cent; New York, 9.3 per cent; Massachusetts, 4.6 per cent.[2] Societal units' spending on information has much accelerated in the last generations as compared to earlier ones.[3] In short, patterns of interunit distribution of information seem significantly more inegalitarian than are those of the distribution of economic assets.

The ratio of investment in *collecting* over *processing* information is an indicator of the sophistication of the cybernetic overlayer and the knowledge strategy to which the particular unit subscribes. The United States and Great Britain, it seems, tend to invest relatively highly in collection; France, at least until recently, has stressed processing.[4] A societal unit that empha-

[2] Data on states' receipt of federal funds for R & D are from the *Statistical Abstracts of the United States: 1966*, p 546, Table 779. Data on agency expenditures of R & D funds are from *Statistical Abstracts of the United States: 1966*, p 544, Table 776. Figures exclude expenditures on R & D plants. All data are for fiscal year 1963.

[3] Thus, for instance, the United States' total federal expenditure on R & D in 1965 was approximately $14 8 billion; in 1955, $3 3 billion; in 1945, $1 6 billion. Data refer to fiscal years. They include R & D plant. See National Science Foundation, *Federal Funds for Research, Development and Other Scientific Activities: Fiscal Years 1965, 1966 and 1967*, Vol. XV, p. 4, Table 2. "90 to 95 per cent of all the behavioral scientists who ever lived are still alive" (Robert K. Merton, "The Mosaic of Behavioral Sciences," in Bernard Berelson [ed.], *The Behavioral Sciences Today* [New York: Harper & Row, 1964], p. 249).

[4] This is one meaning that is implied when the Anglo-Saxon tradition is characterized as "pragmatic" and the French as rationalistic. For some evidence, related to differences in economic planning, see Andrew Shonfield, *Modern Capitalism: The Changing Balance of Public and Private Power* (New York: Oxford University Press, 1965), pp. 151–75. Also, see Fritz Machlup, *The Production*

sizes the collection of information disproportionately will, we expect, have a fragmented view of itself and its environment; it will have many "bits" but no picture, like survey data before tabulation. Such inadequate processing, we suggest, will tend to be associated with drifting (or passivity), because information that is not sufficiently processed is, in effect, not available for societal guidance.

On the other hand, a unit that overemphasizes *processing* is expected to have an "unempirical" view of itself and its environment, because it will tend to draw more conclusions from the available information than are warranted; it is similar to acting on the basis of a poorly validated theory. Thus, overprocessing is expected to be associated with hyperactivity, as the actor assumes he knows more than he does. Master plans used to guide economic development are typically hyperactive in their assumptions. Finally, societal units whose collection and processing are relatively balanced (not in absolute amounts but in terms of intrinsic needs of the guidance mechanisms) are expected to have comparatively more effective controlling overlayers, all other things being equal, and to be active without being hyperactive.

Information that has been processed might still be wasted as far as the societal unit is concerned if it is not *systematically introduced into the unit's decision-making and implementation overlayer*[5] where the main societal "consumption" of information takes place. Two major variables seem useful for characterizing the different arrangements societal units have for interaction between the knowledge-producing and the decision-making units; one concerns the relative degree of autonomy of production, the other, the effectiveness of communications of the "product." It is widely believed that structural differentiation between the producers and consumers of information is necessary; fusion of the two kinds of units—for instance, in the management of a corporation—is viewed as dysfunctional both for production of knowledge and for decision-making. For societal units whose knowledge and decision-making units are differentiated, various modes and forms of articulation and communication exist whose relative effectiveness remains to be explored. Here we can touch on only one aspect of this intricate subject.

The controlling overlayer itself has layers upon layers; processing is superimposed on the collecting of information, both in the logical sense that the one presupposes the other and in the structural sense that those engaged in processing tend to have higher ranks and more power to mold the societal input of knowledge than those who collect information.[6] *Differences in this internal structure of the controlling overlayer* seem to significantly affect the action capacity of societal units.

The effect of these structural differences is due not only to the fact that the amount and quality of information an actor has affect his capacity to act realistically but also to the fact that the knowledge units play an interpretative, and thus a political, role. For instance, which part of the available knowledge is used and what conclusions are reached on the basis of the knowledge available are in part determined by political considerations of the knowledge-producers. These are affected by the internal politics of the organizations in which knowledge is processed, by varying affiliations of the producers with political groupings in the society at large, and by the differential absorption capacity of various political elites of the societal units in which

and Distribution of Knowledge in the United States (Princeton, N.J.: Princeton University Press, 1962), p. 202.

[5] George E. Homans, *The Human Group* (New York: Harcourt, Brace & World, 1950), pp. 369–414. On the societal level, see Don K. Price, *The Scientific Estate* (Cambridge, Mass.: Belknap Press of Harvard University Press, 1965), pp. 120–62.

[6] Roger Hilsman, *Strategic Intelligence and National Decisions* (New York: Free Press, 1956), 141–61.

knowledge is produced. The core of the politization of knowledge lies not in deliberate or subconscious slanting of facts but in the cognitive and evaluative interpretive elements included in most items of knowledge. It is not, as some students of administration would have it, that knowledge units produce information and the political decision-making elites add the judgment. The producers of knowledge play an active role in formulating the judgments and, hence, in guiding societal action.

Within this context, one issue is of special significance for the study of societal guidance: *The effects of the relative investments in two sublayers of the controlling overlayer*—in production of transforming versus "stable" knowledge. Knowledge tied to transformation is concerned with exploring potential challenges to the basic assumptions of a system. Production of "stable" knowledge elaborates and respecifies, even revises, secondary assumptions within the basic framework of a knowledge system, but the framework itself is taken for granted. Decision-making elites, we suggest, tend to prefer the production of "stable" to transforming knowledge and seek closure on basic knowledge assumptions. One reason for this preference is that basic assumptions cannot be selected and reviewed on wholly empirical grounds. Hence, once consensus has been reached on the basic assumptions of a world view, a self-view, a strategic doctrine, it is expensive politically, economically, and psychologically for the elites to allow these assumptions to be questioned, which is necessary if they are to be transformed. They hence tend to become *tabooed* assumptions, and the elites attempt to guide knowledge production toward elaboration, additions, and revisions within their limits. The more the ability to transform this basic framework is reduced, the lower the capacity for societal self-transformation. While societal units which do not transform do survive as long as the range of tolerance of their basic knowledge and societal pattern allows for sufficient adaptation to environmental changes, such adaptation tends to become increasingly costly, and more so the more rapidly these changes occur.

In contrast, the controlling overlayer of more active units has a sublayer that can be activated to review and transform tabooed assumptions. A comparison of corporations which have shifted to a new line of products, restructured their internal organizations, and found new markets when their old markets were gradually lost with those which kept modifying their basic lines but not changing them although their profits greatly declined, suggests that the transforming corporations maintained R & D units which were exempt from the tabooed assumptions *and* were expected sporadically to review these assumptions. That is, part of their institutionalized role was to engage in "search" behavior precisely where the decision-making elites would otherwise settle for "satisficing" solutions.[7]

The societal parallel of this cybernetic arrangement is not difficult to point out. The intellectual community acts as a large-scale, societal R & D unit, as a critical examiner of tabooed assumptions. Under what economic, political, and sociological conditions intellectuals can fulfil this function and what, if any, functional alternatives exist are questions social scientists have much feeling about—but there is surprisingly little systematic research.[8]

These questions can be studied for any society and any societal unit. As the input of knowledge becomes a major *guided* societal activity (about three-quarters of the expenditure on R & D in the United States is federal) and as the ratio of this input as compared to other societal inputs increases both in relative expenditure and in socio-

[7] On these solutions and the tendency to "settle," see Herbert A. Simon, "A Behavioral Model of Rational Choice," *Quarterly Journal of Economics*, LXIX (1955), 99-118.

[8] For one of the few sociological studies, see Lewis Coser, *Men of Ideas* (New York: Free Press, 1965).

political significance, the macrosociological study of the organization of knowledge production and consumption becomes an unavoidable part of studies of societal change and guidance. Typically, earlier studies of a society stressed the size of its population, territory, and gross national product; the present approach adds the number of Ph.D.'s a society's educational system "turns out," the size of its professional manpower, and its investment in R & D as indicators of a major *societal* variable. Sociology of knowledge traditionally focused on the social conditions under which true statements are made;[9] macrosociology of knowledge focuses on the societal conditions under which knowledge is made available for societal purposes, adding a whole new field of inquiry to the study of societies.[10]

B SOCIETAL DECISION-MAKING

At the head of the societal controlling overlayers are decision-making elites—the sociopolitical equivalent of the electronic centers. The elites choose between alternative policies, issue signals to the performing units (i.e., to the underlayer), and respond to signals fed back to the head from the performing units. (The body of the overlayer is made up of communication networks which tie elites to other member units and to a power hierarchy.) Sociologists have studied elites by asking how "closed" versus "open" they are to members of various societal units, how dispersed control is among them, and how they relate to each other. But these are not cybernetic considerations. They belong under the headings of consensus formation (e.g., closed and widely open elites are believed less effective for consensus formation than relatively open ones) and power relations (e.g., decentralization is believed more effective than monopolization of control by one elite or its fragmentation among several). Cybernetic aspects of elites have been studied largely by non-sociologists and have not been systematically related to societal analysis.[11] The cybernetic study of elites concerns the consequences of differences in the procedures used by the various decision-making elites, the strategies employed, and the communication networks which lead from the elites to the performing units and back.

When elites engage in decision-making, they draw on an implicit or explicit societal theory of the nature of the relations among the units under control and how much and by what means these units can be guided by the elites.[12] The validity of these theories varies from elite to elite; the greater the validity, the more effective one would expect the decision-making to be, which in turn is positively associated with the degree to which a societal unit is active. This proposition is not earthshaking, nor are many others concerning the conditions under which decision-making is effective. However, the inclusion or omission from a macrosociological theory of a set of propositions about the conditions under which decision-making is effective is indicative of one's position regarding the nature of society and of societal change.

[9] For an overview of this sociology of knowledge, see Robert K. Merton, *Social Theory and Social Structure* (rev. ed.; New York: Free Press, 1957), pp 456–88.

[10] For studies of this field, see Viscount Hailsham, Q C., *Science and Politics* (London Faber & Faber, 1963); Price, *op. cit*; Jerome A Wiesner, *Where Government and Science Meet* (New York: McGraw-Hill Book Co, 1965); Bernard Barber, *Science and the Social Order* (Glencoe, Ill: Free Press, 1952); Norman Kaplan (ed.), *Science and Society* (Chicago: Rand McNally & Co., 1965); Norman W. Storer, *The Social System of Science* (New York: Holt, Rinehart & Winston, 1966).

[11] Karl W. Deutsch, *The Nerves of Government* (New York: Free Press, 1963); Alfred Kuhn, *The Study of Society: A Unified Approach* (Homewood, Ill: Richard D. Irwin, Inc, 1963)

[12] David A. Zinnes, "A Comparison of Hostile Behavior of Decision-Makers in Similar and Historical Data," *World Politics*, XVIII (1966), 474–502. See also seven essays in Part I of Herbert C. Kelman (ed), *International Behavior: A Social-Psychological Analysis* (New York: Holt, Rinehart & Winston, 1965), pp. 43–334.

In seeking to explain the action or change of a societal unit, most sociologists are more inclined to explore "background" conditions (e.g., the level of economic resources the unit commands; the educational opportunities of elite members) than to study the decision-making procedures the elites follow. There is a widely held assumption that such "background" factors constitute the basic substructure which both sets the main limits of variability of societal action and change (e.g., poor countries lack the capital needed to develop) and specifies the factors which determine what decisions will be made among whatever options are left open (e.g., because of the revolution of rising expectations, democratic elites cannot limit much the availability of consumer goods). Differences in decision-making procedures are considered either "dependent" variables or trivial. In contrast, the theory of societal guidance suggests that societal actors have more autonomy. "Background" factors are viewed as setting a broad frame; which course is followed within its limits is affected by cybernetic factors, among which decision-making procedures are a significant element. An effective elite, for instance, might defer consumption increase in a poor country despite rising expectations and tip the scales in favor of stable development.

Actually, many of the undeveloped nations are not overpopulated or poor in resources but poor in control capacities, among which the quality of their elites ranks high in importance. For instance, in 1930 the level of economic development of Canada and Argentina was similar, on several key indicators.[13] Canada since then has continued to develop, while Argentina remains underdeveloped. A typical "background"-condition approach would stress the presence of the Protestant element in one country and its absence in the other, as well as the differences in the Catholic stock in the two countries (in Argentina it is more that of southern Spain and Italy, in Canada that of the French). One would expect, in line with Weber's analysis, these differences to correlate with attitudes favorable to capitalism.

Adding to this Weberian thesis, a theory of societal guidance would call attention to the difference between the responsive-democratic government of Canada and the authoritarian leadership of Argentina. True, this difference in leadership is in part due to differences in societal structure; Canada, for example, would not "tolerate" a Peron. But unless a one-to-one relationship between background factors and elite conduct is assumed, and elite conduct is viewed as having no significant independent effect on background factors, the analysis of the guiding quality of the elites has to be included as an integral part of societal theories. It suffices to contrast the development of each country under different governments following different decision-making procedures (e.g., Peron and Illia in Argentina) to illustrate the value of systematically including these factors.

One typical decision societal elites in charge of guided change often have to make, at what are relatively critical turning points, is between acceleration and deceleration of the processes of the change they guide. When a societal change is initiated —whether it be collectivization of farms, federation, or desegregation—resistance tends to accumulate, because existing patterns are supported by vested interests which are often threatened by the changes. As a change advances, there is in many cases at least one critical turning point at which resistance rises to a point where it endangers the control of the elites—a president thinks he might not be re-elected, the government believes it might be overthrown, or a part of the country might secede. The decision the elites then face is between acceleration, with the hope of "overpowering" the opposition and reaching a stage at which the support of those that will benefit from the new pattern will rise,

[13] See El Desarrollo Economico de la Argentina, E-CN. 12-429-Add. 4 (1958), pp. 3-5.

or deceleration to allow more time for the opposition to be worked out, circumvented, educated, or otherwise dealt with.

Obviously the question is not which procedure or strategy is in the abstract more effective; the question is rather under what societal conditions one is more effective than the other *and* under what conditions an elite chooses the suitable as against the unsuitable strategy. In a comparative study of four cases, we found two elites that accelerated and two that decelerated in face of a "premature" situation—that is, a situation where opposition was high and forces in support of the change weak. The accelerating elites lost control (in the United Arab Republic, Syria rebelled and seceded; the West Indian Federation was disbanded). The decelerating elites are still in control, though in one of the two cases (the Scandinavian system) the elite had decelerated so much that the process of change, regional unification, came to a standstill, while only in the fourth case (the European Economic Community) was continuation of the process assured by deceleration.[14]

Other societal decisions, often debated ideologically but rarely studied analytically and systematically, concern the conditions of militancy versus moderation, or confrontation versus coalition politics, and the wholistic versus the gradualist approach. These and similar strategic decisions draw on explicit or implicit theories about the nature of societal linkages and control factors, such as how far a government can be relied upon as an agent of transformation, what will be the result of mass activation of apathetic publics, or how much will activation of one societal sector "spill" over into the others. Here a main need is to link the study of societal decision-making with that of societal input of knowledge, two major control factors.

The quality of decision-making becomes more important the more active a societal unit is. Obviously the more assets a societal unit has and the more mobilized these are for societal action, the more advantages it can derive from their effective use. For passive units, which barely guide their own processes, "background" factors are of much importance; for units that react more creatively to environmental as well as to internal challenges, the quality of decision-making increases in significance. A theory, though, which stakes a claim for generality has to include systematically the variables to characterize societal decision-making even if in some societies they do not account for much of the variance.

Cybernetic factors other than the input of information and decision-making include various attributes of societal goals, such as the clarity of their formulation and the degree of compatibility of a unit's various goals. Also relevant is the quality of the communication networks that lead from the decision-making elites to the performance units and back, including the number and intensity of gaps, "noise" on the line, etc. As our purpose here is not to provide a list of these factors but to illustrate the main categories, we turn now to a third element of control, power.

C. POWER: ITS SOURCES AND ITS MOBILIZATION

Societal assets and power.—Societal structures are not just patterns of interaction of actors, patterns of expectations and symbols, but are also patterns of allocation of societal assets, of the possessions of a societal unit. These can be classified analytically as coercive, utilitarian, and normative, concerning, respectively, the distribution of the capacity to employ means of violence, material objects and services, and symbols (especially values). A measure of the assets a societal unit or subunit possesses is *not* in itself an indication of its power but only of its power *potential*. Assets may be used to generate more assets, may be consumed or stored, or may be used

[14] Amitai Etzioni, *Political Unification: A Comparative Study of Leaders and Forces* (New York: Holt, Rinehart & Winston, 1965), *passim*.

to overcome the resistance of other actors, which is what is meant by societal power. (This does not mean necessarily to force other actors; their resistance may be overcome, for instance, by offering a payoff.) In exploring the relations between assets and power, it is essential not to shift the frame of reference in mid-analysis. Conversion of assets into power at one point in time might lead to more assets at a later point; in the first point in time, however, the generation of power entails a "loss" of assets.

A central proposition of the theory of societal guidance is that the relationship between assets and power is a "loose" one—that is, the amount of assets allocated to a societal unit in a given structure provides a poor indicator of how much societal power the unit will generate. The amount of power generated seems to be much affected by the *intra*-unit allocation of the assets among alternative usages. A unit poor in assets can in principle command more power than a much more affluent one, if the poor unit assigns more of its assets to power "production." (With half the gross national product, the U.S.S.R. maintains a defense budget similar to that of the United States.)

The fraction of the assets possessed by a unit that is converted into power is itself influenced by the societal context and not freely set by the societal actor (e.g., that Negro Americans are less politically active than Jewish Americans is in part due to differences in educational opportunities). We suggest, however, that the intra-unit assignment of assets to power is a relatively more malleable attribute than the amount of assets the unit possessed (at any given point in time). It is here that an important element of voluntarism enters the social structure. A comparison of colonial societies in the years immediately preceding the "takeoff" of national independence movements with those immediately after they won their independence seems to show that the "takeoff" involved more change in the distribution of assets, in their relative use for generating societal power, than in the size of the assets base itself. Similarly, the American civil rights movement, which between 1953 and 1965 transformed segments of the Negro Americans from a passive to an active grouping, entailed much more of a change in the mobilization of power than in the amount of assets this grouping commanded.[15] The possession of assets rose slowly in comparison to the rise in political power.

Mobilization.—Each societal unit has at any given point in time a *level of activation* which we define as the amount of assets available for collective action as compared to its total assets. For example, the percentage of the gross national product spent by the government, the percentage of the labor force employed by it, and the percentage of the knowledge-producers who work for it are crude indicators of national activation level. *Mobilization* refers to an upward change in the level of activation, to an increase in the fraction of the total assets possessed by a unit made available for collective action by that unit. (Demobilization refers to a reduction in that level.)

The level of activation of most societal units most of the time is very low; if all their assets are taken into account, usually less than 15 per cent are available for collective action. Hence, relatively small percentage changes in the level of mobilization may increase the action capacity of a unit to a large extent. Major societal transformations, such as sociopolitical revolutions and the gaining of national independence, usually involve relatively high mobilization. The secret of the power of social movements lies in part in the relatively high mobilization which the asceticism and the intense commitment of the members allow for.

Aside from the asset base a collectivity commands and the amount of power it is mobilizing, the *kind* of power generated

[15] For the premobilization state see James Q. Wilson, *Negro Politics* (New York: Free Press, 1965), esp. pp. 3–7.

also affects the action capacity of the unit. To employ power is, by definition, to overcome resistance, but in society, as in nature, each application of power generates a counterpower, a resistance of its own (the result of the alienation of those who were made to suspend their preferences in favor of those of the power-wielders). While all power applications have this effect, some generate more alienation than others.

In estimating the effect of the use of a particular kind of power on the relationships between the power-wielders and the subjects, it is essential to take into account that this is as a rule a "generalized" relationship. That is, while a particular instance of exercise of power may generate little alienation, repeated use may generate much; and, even when no alienation is manifest, it may accumulate covertly and express itself indirectly.

We suggest that when different power relationships are compared, if the means of control used are coercive, all other things being equal, resistance will tend to be high; if utilitarian, lower; and if normative, even smaller.[16] Most power-wielders may prefer to use the less alienating kinds, but there are limitations on their capacity to mobilize these kinds as well as on their understanding of the dynamics involved, with the consequence that they may opt to use a more alienating kind of power[17] even where this is not otherwise necessary.

The societal-guidance approach thus adds to the exploration of the asset base of a unit the degree to which it is mobilized for collective action and which kinds of power are mobilized. These added factors, in turn, determine to a considerable degree how alienating societal control will be and whether relations between the elites and the other units will be those of open conflict, encapsulated conflict, or co-operation.

II. CONSENSUS FORMATION

A. CONSENSUS DEFINED

So far guidance of change has been explored from a "downward" view, from the controlling overlayer to the controlled underlayer; even the discussion of the concepts of communication feedback and subject resistance has been from the viewpoint of a controlling agent. The main difference, though, between societal guidance and electronic cybernetics is that in the societal realm we must systematically take into account that the controlled units have some of the controlling capacities themselves: they input knowledge, make decisions, pursue goals, and exercise power. Hence the capacity of any one unit to act is determined only in part by its ability to control the others. It is similarly affected by the degree to which the goals it has chosen to pursue and the means it employs are compatible with those preferred by other units —that is, the degree of consensus.

Consensus, the congruence of preferences of the units concerned, is viewed by typical sociological theories as largely given (or changing under the impact of ongoing processes); voluntaristic theories tend to view it as open to manipulation by charismatic leadership and/or mass media. From the viewpoint of a theory of societal guidance, consensus is the result of a process in which given preferences *and* guided efforts affect each other, the outcome of which tends to be in continual flux. Consensus needs to be continuously revised as new groups rise and the relations among old ones, as well as their preferences, change. A consensus that becomes institutionalized and loses the capacity to adapt and transform is hence likely to become increasingly inauthentic, representing yesterday's society but unresponsive to the contemporary, changing one. In the following discussion, unless specifically so indicated, the consensus referred to is dynamic, authentic, and responsive.

[16] I suggested elsewhere that this classification is exhaustive and explored the possibilities of mixed kinds and the indicators involved. See my *A Comparative Analysis of Complex Organizations* (New York Free Press, 1961), pp. 4–6.

[17] *Ibid.*, pp. 3–22.

B. CONTROL AND CONSENSUS

There is a trade-off curve between control and consensus; that is, for any given level of activation, the more consensus, the less need for control, and the less consensus, the more need for control if the same level of realization of goals is to be maintained. Which "mix" is used, though, is not without consequences; it affects the levels of alienation and resistance and hence the future capacity to act. Of course, when both consensus *and* control are higher, more change can be guided than when both are lower, without an increase in alienation. The additional consensus absorbs the additional alienation which the additional control would otherwise have generated by allowing greater reliance on the less alienating kinds of power or by achieving action in unison without that power being exercised.

C. CONSENSUS-FORMATION STRUCTURES

To illustrate a societal-guidance approach to the study of consensus formation, we briefly compare "built-in" to "segregated" consensus-formation structures. In a built-in structure, consensus formation is by and large the output of ongoing interactions among the societal units. Consensus formation in smaller and less complex preliterate tribes seems to rely largely on ongoing interaction between the member families. In the Soviet society, consensus is to a degree built-in, as it is produced in the process of interaction among factory management, union leaders, and party officials, the prime function of which is not consensus formation but economic and administrative in nature (in the downward, control sense of the term).[18] In a segregated structure, political units (such as parties and legislatures) exist as distinct from societal ones, and societal differences are translated into political ones before consensus is worked out. Segregated structures seem more effective for consensus formation than built-in ones, though, we suggest, they generate only enough consensus to back up comparatively low levels of activation. They are like a sophisticated machine which, however efficient, cannot be used for heavy duty.

In the search for a structure that would allow for more direction of change *and* higher consensus (a search that is far from completed), "voluntary planning" as developed in France in the postwar years and by the European Economic Community has gained much attention. There is here less differentiation of political and societal units than in the segregated structures typical of traditional democracies but more than in the built-in structures of totalitarian regimes. Here, knowledge-input units are not only related to the societal decision-making units but also are tied into the consensus-forming process, thus informing the controlled and not just the controlling units and remodeling the judgments that the information units produce on the basis of interaction with *both* the elites and the publics.

Comparative studies of the organization and process of consensus formation ought to supplement and in part replace the comparative study of constitutions and formal governmental organization—to supplement, because we need studies of both political institutions and consensus formation, studies which will relate these institutions to societal groupings and the relations among them; to replace in part, because the studies of political shells have proved too rigid and simplistic for many purposes. The study of the prerequisites of democracy may illustrate this point.

As democracy was traditionally defined—the rule of the majority—the concept was unable even to distinguish between totalitarian and democratic regimes. The more subtle definition—provision for the institutionalized change of the party in office—still disregarded less formal demo-

[18] Joseph Berliner, *Factory and Manager in the U.S.S.R.* (Cambridge, Mass.: Harvard University Press, 1957), pp. 231–78; Zbigniew Brzezinski and Samuel P. Huntington, *Political Power: U.S.A.: U.S.S.R.* (New York: Viking Press, 1965), pp. 129–90.

cratic mechanisms, such as changes in the coalition partners and in the factions represented inside the ruling party in response to changes in societal power, and defined countries such as West Germany and Israel as non-democratic. Neither the Christian Democratic Union nor Mapai has been voted out of office since the establishment of the two states, and whether or not these parties can be electorally defeated is an open question. Also, formal studies focus on national legislators and parties as the consensus-formation agents, but these are rapidly losing their effectiveness as the power of the executive rises. Hence, a polity that meets all the criteria of formal democracy may not generate enough consensus for the prevailing level of activation, not to mention increased levels which seem to be both needed and occurring, thus leaving the society with substandard consensus leading either to accumulative alienation or pressure to reduce activation (a stand taken by U.S. conservatives).[19]

Similarly, significant differences in the consensus formation of various totalitarian societies and of various authoritarian ones (a mode of government which prevails in Africa, Asia, and Latin America), as well as the changes of these regimes over time, can scarcely be studied in formal terms, such as merely characterizing them as totalitarian or authoritarian or classifying regimes as one-, two-, or multiparty states. In comparison, a societal-guidance approach to the study of consensus formation, illustrated by the differences between built-in and segregated structures, adds a more processual and dynamic perspective.

III. A SYNTHESIZING VIEW: THE ACTIVE SOCIETY

A. A TYPOLOGY OF SOCIETIES

We turn now to illustrate a synthesizing perspective on social processes that may be attained once our understanding of the various components of societal guidance is more advanced; at the present stage, little more than a brief illustration can be provided. Using control and consensus formation as two dimensions of a property space, we characterize, in an ideal-typical manner, a society which is high on both as comparatively active, low on both as passive, high on control but low on consensus as overmanaged, and low on control but high on consensus as drifting.

The *passive society* is approximated by those primitive societies whose polities are highly undeveloped, especially "segmental" tribes.[20] Their low level of societal self-control is obvious. Consensus seems to be not only largely static but also hardly mobilizable for most *societal* goals. Typically, there is little machiney to form consensus if additional consensus were necessary, let us say, because of an external challenge. Hence, while "background" consensus may be quite high, the consensus-*formation* capacity is low. One indicator of this low capacity is that, when primitive societies do act, coercion often plays a rather central role in overcoming internal resistance.[21]

The *active society* maintains a level of control that is not lower and is possibly even higher than that of overmanaged societies, and it forms at least as much consensus as drifting societies. This is possible because the active society commands both more effective control and more effective

[19] It should be noted that we assume here that not only those classes which favor radical change yet are suppressed may be alienated, but also those classes which favor the status quo and are forced to accept a radical change. The alienation of these classes is reduced the more they realize (or are socialized to see) the legitimacy and "payoffs" of the changes, which, by and large, can only be established if the changes are responsive to the deeper needs of these classes as well, and if they are expressive of basic societal and human values. This matter is further explored in my *The Active Society*, chap. xxi.

[20] M. Fortes and E. E. Evans-Pritchard (eds.), *African Political Systems* (London: Oxford University Press, 1950), pp. 197-296.

[21] Max Gluckman, *Order and Rebellion in Tribal Africa* (New York: Free Press, 1963), pp. 39-40.

consensus-formation mechanisms since it can rely more heavily on the less alienating kinds of power, especially on the normative one. Also, a high level of consensus formation can be achieved only at a high level of activation, because only under this condition can a large number and variety of goals (the various subsocieties and the society as a unit are committed to) be realized. This realization cannot be achieved by mere increase of societal control, as effective control requires the support of those subject to it. And, if the level of control is to be raised without at the same time raising alienation, a high capacity to form consensus is required. Thus, high control and high consensus, high activation and low alienation, are mutually reinforcing.

Finally, the active society has the highest capacity of the four ideal types for self-transformation, which is the most effective mechanism to avoid widespread alienation, because it makes it possible for the rise of radically different goals and subsocieties to be accommodated by the same system since it changes its basic pattern. If the societal pattern is responsive to these changing goals of the members, the membership will tend to be committed rather than alienated, and the society will be active.

The active society is a utopia in that it exists nowhere but is a not a utopia in the sense that it is possible for a society to become one, for its functional requirements do not appear to violate any sociological law. Social-movement societies, such as Israel in 1948, approximate such an active society. A main difference between a social-movement society and the active one is that the latter stabilizes some social-movement features such as high consensus formation and intense commitment, rather than merely passing through such a phase.

For an active society to be possible, consensus formation must be in part upward, allowing for the authentic expression of the members' preferences and for a real, and not "co-opted," participation. It is a central proposition of the theory of societal guidance that downward mobilization of consensus cannot effectively replace the upward elements; commitment achieved through mobilization of the sources of information and mass propaganda is short-lived and not nearly as effective as authentic, upward consensus formation, even while its spell lasts.[22] The tenor of most of the literature on the subject assumes the opposite position, but we are not aware of any body of evidence which would allow this rather central question to be settled. The reasons in support of our position will be presented in a future publication.[23]

The *overmanaged*, high-control, low-consensus type is approximated by the totalitarian societies. Typically, they have inadequate consensus-formation structures, and those they have are mainly of the built-in variety. Societal action is initially oriented to goals which assume a very high capacity to act, but those are later scaled down, as consensus mechanisms do not allow discovering beforehand where and how much resistance will be encountered in the various subsocieties as various societal changes are attempted. Typically, too, use of the most alienating kind of power, coercion, is high. (While the use of normative power is also high, its being "mixed" with coercive power undermines its effectiveness.[24])

Whether or not overmanaged societies are transformable and what kinds of societies they will become if they are, are two widely debated questions. The discussion is between those who see democratization as taking place and those who argue that the

[22] While initially totalitarian societies were viewed as effective "brainwashers," now it is increasingly evident that "human nature" reasserts itself, especially in the U.S.S.R. and eastern Europe, and probably in China too.

[23] Etzioni, *The Active Society*, chap. xxi.

[24] For additional discussion of the difference between "pure" application of normative power and its "mixing" with other kinds of power, see my *A Comparative Analysis . . .*, pp. 55 ff.

totalitarian societies are ultra-stable.[25] This dichotomy seems not to exhaust the possibilities. Democratization seems unlikely, because democracies are themselves no longer well adapted since their present control and consensus mechanisms are insufficient for the higher level of activation needed and because there is no legitimation of democracy and no democratic experience in the history of most contemporary totalitarian societies. On the other hand, it seems hard to maintain that totalitarian societies are not transformable in view of the far-reaching societal changes in the U.S.S.R. since 1917.

The direction of any such change might be toward an active society whose level of control is relatively closer to that of totalitarian societies than that of the democratic ones; whose less segregated consensus-formation structure is closer to the totalitarian built-in one than the democratic segregated one, and whose social-movement character can draw for legitimation on the most charismatic period of the totalitarian societies. The sharpest transition would be from reliance on force and propaganda as central means of compliance to a focus on education and utilitarian power; such a transformation, as drastic as it is, is more limited than a shift to a relatively pure utilitarian focus characteristic of capitalistic democracies. In fact, this seems to be a direction of change already evidenced in the U.S.S.R.

Drifting societies are approximated by capitalist democracies. Their most important relevant feature is that they tend to act to introduce significant structural changes only when the need to act is "overdue,"[26] in a "crisis," only when broad consensus can be mobilized *before* action is taken. Further, the action taken often does not remove the lag, as the changes introduced are an accommodation of the more conservative to the more change-oriented subsocieties. The second major reason capitalist democracies are drifting societies is that the more powerful subsocieties draw societal assets for their own consumption and power either by neutralizing the societal controls which might have prevented such a deflection or by slanting these controls to serve their subsocietal interests. In either case, as far as the society at large is concerned, it is ineffectual in guiding its processes and change.

[25] The transformation view is presented by Gabriel Almond, *The American People and Foreign Policy* (New York: Frederick A. Praeger, Publishers, 1960), p. xvi; the opposite one by Philip E. Mosely, "Soviet Foreign Policy since the Twenty-second Party Congress," *Modern Age*, VI (Fall, 1962), 343-52.

[26] On this concept see my *Political Unification*, pp. 81-82, 95.

B. CONSENSUS, EQUALITY, AND ACTIVATION

Here an additional concept must be introduced to tie the analysis of consensus formation to the study of assets and alienation, the concept of equality. Equality is used here to refer to an allocative pattern indicated by a distribution profile that approximates a straight line; that is, groupings of the population that are equal in size possess equal amounts of assets. No society is completely egalitarian, but there are obviously significant differences in the degrees of inequality. These, in turn, are associated, though, of course, not on a one-to-one basis, with differences in power. When consensus is formed, it reflects the power relations among the members; the policy agreed upon tends to be closer to that preferred by the more powerful subsocieties. It is as though the weaker members say to themselves that they had better go along with a suggested policy, in which their concurrence is traded for some concessions, for fear that otherwise the powerful would impose a policy even more removed from their preferences. The amount of alienation that remains in the weaker units, however, is related to the measure of inequality. Consensus which leaves little alienation can be formed only under conditions of fairly high equality.

While this cannot be demonstrated here, we suggest that there is a secular historical trend toward a reduction in inequality among the subsocieties (e.g., classes, regions) making up the capitalistic democracies, although so far this reduction has been limited. (The trend is fairly obvious as far as political rights and status symbols are concerned; it is less clear with regard to economic well-being.) Continuation and acceleration of such a trend, if they were to take place, would move democratic societies in an active direction by allowing the formation of more consensus with less alienating undertones and more facing of societal problems as they arise. A major force which propels the transition from a drifting toward an active society is the mobilization of the weaker collectivities; this is triggered by the spread of education, changes in employment opportunities, and other factors that generate imbalanced status sets, as well as by the priming effect of some elites, especially intellectual ones. Since this statement is rather central to our conception of societal change as far as the transition of Western societies into the postmodern (see below for definition) period is concerned, the assumptions implied should be briefly outlined.

As we see it, transformation of capitalist democracies is not propelled by *conflict* among *classes* but by *interaction* among *organized collectivities*. Thus, the collectivities involved may be ethnic groups or regional communities and not just classes, and the relationship among the subsocieties might be of coalition, limited adversary, etc., and not necessarily all-out conflict. Above all, the units of action are not the collectivities per se but that part of each which has been mobilized by organizations. Thus, history is not affected by the working class as such, which is a passive unit, but by labor unions, labor parties, social-protest movements that mobilize a segment of the working class. (The same could be said about the civil rights movement and Negro Americans, national-independence movements and colonial people, etc.)

Collectivities are bases of potential power, but generally only a small fraction of these potentialities are actualized for purposes of societal action and change. The capacity of any collectivity to influence the pattern of societal change, its actual societal power, depends as much on its capacity to mobilize—that is, *on the outcome of the internal struggle between mobilizers and the immobilized*—as on the collectivity's potential power base.

It may be said that the capacity to mobilize is itself determined by the distribution of assets *among* the collectivities, that the more powerful units hold down the capacity to mobilize of the weaker societal units. While this is a valid observation, it is also true that the mobilization of any collectivity reduces the capacity of other collectivities to hold it down. For each point in time, hence, it is necessary to study not only the power potential of a societal actor but also his mobilization capacity, which affects his actual power at this point in time. The dynamic analysis then proceeds by comparing changes in potential and actual power over time and the effects of changes in the power of some actors over that of the others. A study of societal change which focuses largely on the stratification relations among collectivities (as Marx tended to do and as his theory was corrected to a degree by Lenin),[27] not to mention one which excludes power analysis altogether, provides at best a fragmental theory of societal change.

What does all this imply for the transformation of capitalistic democracies? In these societies, most members of most collectivities have a formal right to participate in the political process, an egalitarian political institutional status unmatched in their societal positions. An increasing number are also gaining an education, which

[27] Sheldon Wolin, *Politics and Vision* (Boston: Little, Brown & Co., 1960), pp. 421–24.

has a mobilizing effect.[28] For historical reasons which need not be explored here, campus groups, professionals, clergy, middle-class members of ethnic minorities, all of which command mobilizing skills, are allowed to exercise them and serve as mobilizers of the weaker collectivities, within the limits set by various constraints. And, as at the same time weaker collectivities are becoming increasingly mobilizable and the number of mobilizers is increasing, the total effect is increased societal power of the heretofore weaker (and underprivileged) collectivities. The effect of the mobilization of weaker collectivities, which is only in part neutralized by countermobilization of more powerful collectivities, is to transform the society in the direction of a relatively more egalitarian and active one. Whether such transformation will sooner or later lead to a showdown between the powerful and the mobilizing collectivities, or whether the mobilization will run out of steam on its own, or whether the scales will be tipped for an active society—that is, whether a structural *transformation* will take place—are questions our study of societal guidance points to but cannot at present answer.

[28] For a review of several studies which show correlations between education and political activation, see Lester W. Milbrath, *Political Participation* (Chicago: Rand McNally & Co., 1965), pp. 42-54.

We can conclude, however, that at least at the present both overmanaged and drifting societies seem to be leaning in the direction of an active society, rather than either of these two less active societies becoming the prevalent type. The new means of communication and of knowledge technology seem to be working in this direction in both kinds of societies; continued mobilization of the weaker collectivities in capitalist societies and increased pluralism in totalitarian societies may also be supportive of such a transformation. The new cybernetic capacities that are increasingly available to societies since 1945 offer a new range of societal options and hence mark a period that may be referred to as the post-modern one. And 1945 also marks the opening of the atomic age and hence suggests that a major issue for macrosociology, not touched upon here, is that of changing, not the systems' structures, but their boundaries. Answering the question as to which conditions favor and which block the rise of active societies and the transformation of an anarchic world into a communal one seems to us to require a macrosociology on top of prevailing "universal" theories; a theory of societal guidance may provide a systematic sociological framework for such an approach. It may also provide an avenue to carry the sociologists' contributions to these societal transformations.

Columbia University

Negro-White Occupational Differences in the Absence of Discrimination[1]

Stanley Lieberson and Glenn V. Fuguitt

ABSTRACT

A distinction is drawn between racial disadvantages due to discrimination and those based on the unfavorable position occupied by Negroes in the social structure. Although the latter may be derived from early discriminatory acts, the operation of racially neutral, universalistic forces would tend to handicap some groups even if discrimination were to vanish completely. A Markov model is used to project future Negro-white occupational patterns based on current cross-tabulations between father's and son's occupations and between father's and son's education and the relationship between education and occupation. A series of crude assumptions is necessary, but it appears that the absence of racial discrimination in the job market would not eliminate racial differences in occupations immediately, since there are broad societal processes operating to the disadvantage of Negroes. Racial differences in occupation would decline sharply after only one generation in which discrimination was absent, although several generations would be necessary before parity was reached.

The disadvantages faced by racial and ethnic groups are one of the central concerns in the study of intergroup relations, but insufficient attention has been paid to the two basic types of handicaps. First, there is the disadvantage that occurs when members of a group are rejected or discriminated against solely because of their race or ethnic origin. The difficulties faced by Negroes with sufficient funds in the housing market are an obvious instance of discrimination based on racial or ethnic membership. A second basic disadvantage faced by a group is not the product of immediate discrimination, although it may reflect earlier discriminatory acts. This situation occurs when members of a group occupy a position in the social structure which puts them at a disadvantage by lowering their opportunities even under the operation of non-racial or universalistic criteria. For example, if discrimination against Negroes on the job market were to disappear, they would still hold jobs inferior to whites because of lower education, poorer training, and the like. Suppose an employer wishes to hire only applicants with a high school education. Assuming that he indiscriminately chooses whites and Negroes at random, fewer Negroes will be hired on a proportional basis simply because the segment of the Negro labor force with a high school education is smaller than that for whites. Thus the net effect of racially neutral employment practices may still favor one group over another.

The analytical distinction between the disadvantages derived from discrimination and those based on universalistic social processes is applied in this paper to the occupations held by Negro men. Even if the present disadvantaged status of Negroes in the United States is entirely a consequence of discrimination, a complete end to discrimination would not mean an immediate end to their social and economic liabilities. The difficulties faced because of job training and education requirements, work experience, and similar factors suggest taking an intergenerational approach, since it is across generations that most major shifts in occupation may take place.[2]

[1] The assistance of Lee J. Haggerty in the analysis of these data is gratefully acknowledged.

[2] See Otis Dudley Duncan, "Occupation Trends and Patterns of Net Mobility in the United States," *Demography*, III, No. 1 (1966), 15.

By means of a simple mathematical model, the Markov chain, the possible consequences an end to discrimination would have on Negro-white occupational differences are traced in terms of intergenerational occupational mobility. The results generated by the Markov model are used to describe the implications of current nondiscriminatory disadvantages faced by Negroes rather than as a means of prediction, for we are aware that our assumptions do not fully describe what will realistically be expected to occur.

METHODS

The Markov model has had a variety of applications in the social sciences in recent years, particularly in the study of social mobility.[3] It assumes a set of observations that may be classified into a finite number of different states. A given observation may move from one state to another over a time period t, and there is a sequence of such time periods. The probability that an observation will move from state i to state j between t and $t+1$ is given by p_{ij}. The basic assumption of the model is that the probability of moving from i to j depends only on the state at time t and that this probability is constant over the sequence of time intervals.

Consideration of the Markov-chain process can be greatly simplified by matrix algebra. If t is a row vector of the proportion of observations in each state at time zero, and P is the matrix of transitional probabilities, then $t_0P = t_1$, where t_1 is the proportion in each state at time 1. Also, it can be shown that $t_0P^n = t_n$. that is, by raising P to the nth power and premultiplying by t_0, one obtains the proportion in each state at time n.[4]

An intergenerational-mobility table may be transformed into a matrix of transition probabilities necessary for the Markov model. The proportional distribution of the sons' occupations tabulated by the occupations of their fathers can be treated as rows of p_{ij} values, with each row adding to 1.000. In Table 1, which provides the basic set of p_{ij} values, we see, for example, that the probability of becoming a professional for the son of a professional is .410, whereas p_{ij} for the son of a craftsman becoming a professional is .130.

In this paper we have operationalized an end to discrimination by assuming that an intergenerational-mobility table for all men applies to Negroes as well as whites. This table is used because data were not available for whites alone. However, the matrix is heavily weighted by the white rates, since Negroes are a relatively small proportion of the total labor force. The matrix of transition probabilities obtained from this mobility table is successively multiplied by the appropriate occupational-distribution vector for Negro men as well as by the corresponding white vector, yielding expected occupational distributions for the two races under the Markov assumption. If this P is

[3] These include S. J. Prais, "Measuring Social Mobility," *Journal of the Royal Statistical Society*, Ser A, CXVIII (1955), 56–66; *idem*, "The Formal Theory of Social Mobility," *Population Studies*, IX (July, 1955), 72–81; Judah Matras, "Comparison of Intergenerational Occupational Mobility Patterns: An Application of the Formal Theory of Social Mobility," *Population Studies*, XIV (November, 1960), 163–69; and Robert W. Hodge, "Occupational Mobility as a Probability Process," *Demography*, III, No. 1 (1966), 19–34. Examples of other applications to social science are Irma G Adelman, "A Stochastic Analysis of the Size Distribution of Firms," *Journal of the American Statistical Association*, LIII (December, 1958), 893–904; C. G. Judge and E R. Swanson, "Markov Chains: Basic Concepts and Suggested Uses in Agricultural Economics" (research report AERR-49 [Urbana, Ill: Department of Agricultural Economics, 1961]); Daniel I. Padberg, "The Use of Markov Processes in Measuring Changes in Marketing Structure," *Journal of Farm Economics*, XLIV (February, 1962), 189–99; and Glenn Fuguitt, "The Growth and Decline of Small Towns as a Probability Process," *American Sociological Review*, XXX (June, 1965), 403–11.

[4] For a general elementary discussion of Markov chains see John G Kemeny, J. Laurie Snell, and Gerald L Thompson, *Introduction to Finite Mathematics* (Englewood Cliffs, N J. Prentice-Hall, Inc, 1956).

TABLE 1

SON'S OCCUPATION BY FATHER'S OCCUPATION, 1962

Father's Occupation	Son's Occupation (See Stub)										
	1	2	3	4	5	6	7	8	9	10	All Sons
1. Professional, technical, and kindred .	.410	.175	090	.069	087	.103	.031	.019	.012	.004	1.000
2. Managers, officials, and proprietors, except farm.	.216	.341	.091	071	.139	.085	025	.019	.010	.003	1 000
3. Sales workers	.195	.300	.150	062	.119	.104	.032	020	.017	.001	1.000
4. Clerical and kindred	.281	.178	078	.097	.169	.092	.061	.030	.014	000	1.000
5. Craftsmen, foremen, and kindred	.130	.165	047	078	294	.175	.051	.048	.008	.004	1 000
6. Operatives and kindred	.117	.122	044	066	.239	.259	.059	.076	.009	.009	1 000
7. Service workers, including private household	.101	142	057	095	210	209	.111	063	.010	.002	1 000
8. Laborers, except farm and mine	.059	.080	036	080	226	.263	.091	.142	.012	.011	1 000
9. Farmers and farm managers	053	115	025	047	197	205	052	.085	.178	043	1.000
10. Farm laborers and foremen	023	.075	020	038	205	260	.081	.134	.062	.102	1.000

NOTE.—Persons not reporting their fathers' occupations are excluded

a regular stochastic matrix (and it is), we know that both Negro and white occupational distributions will approach convergence at equilibrium, which is determined by the values of P alone. What is of interest here is the changing pattern of Negro-white differences over time until they become negligible, which depends both upon the P matrix and the two initial vectors used. This process tells us about the joint effect of intergenerational mobility and racial differences within the social structure.

An alternate analysis was carried out using an educational-mobility table. Assuming that an end to discrimination would result in common intergenerational-educational-mobility patterns for Negroes and whites, expected educational distributions for the two races are projected across generations to convergence. These are then converted into another set of occupational distributions by means of a cross-tabulation of education and occupation.

An end to discrimination is operationalized here by positing common intergenerational-mobility patterns for Negroes and whites. Factors other than discrimination, however, such as family structure and possible differences in level of aspiration, may make for differences between the mobility of Negroes and whites having the same occupational or educational background.[5] Thus this procedure may overstate the rate of upward mobility for Negroes under the assumption that racial differences not explained by structural characteristics are a function of discrimination.[6]

[5] Beverly Duncan observed, e.g., that growing up in a broken family means from 0.6 to 1 year less schooling for a boy. See her "Family Factors and School Dropout: 1920-1960" (Ann Arbor: University of Michigan, 1965), p. 8. For a discussion of Negro-white differences in family disorganization, see Office of Policy Planning and Research, U.S. Department of Labor, *The Negro Family* (Washington, 1965).

[6] See the discussion of problems in the measurement of discrimination in H. M. Blalock, Jr., "Theory, Measurement, and Replication in the Social Sciences," *American Journal of Sociology*, LXVI (January, 1961), 346-47.

There are a number of aspects of the model which are unrealistic, in addition to the obvious one of an immediate end to discrimination. By applying occupational- or educational-mobility rates under Markov assumptions, we assume that the mobility pattern is unchanged over a series of generations. In point of fact, mobility matrixes have changed through the years in the United States.[7]

Fertility, mortality, and the length of generations differ between the races as well as across educational and occupational groups, but these facts are ignored since the data necessary for making such adjustments are not available. While these demographic forces are significant for explaining the patterns of social mobility in the United States or for policy decisions, it is convenient to assume the constancy of these vital processes for the problem tackled here. In effect, it is assumed that each father will have one son who will survive to take an occupation according to the mobility table and to have one male forebear, etc.

The unit of analysis here is the occupational (or educational) distribution of white or Negro males thirty-five to forty-four years of age. In the *Current Population Survey* from which the occupational-mobility table was obtained, respondents were asked their fathers' occupations when the former were sixteen. Since the mobility rates are applied over successive hypothetical generations, this age range was chosen because these men are the ones most likely to have sixteen-year-old sons.

We repeat that our objective is not to make predictions about what will happen or to compare data generated by our model with empirical data obtained now or in the future. Rather, the importance of universalistic disadvantages suffered by Negroes

[7] Otis Dudley Duncan, "The Trend of Occupational Mobility in the United States," *American Sociological Review*, XXX (August, 1965), 491-98; Natalie Rogoff, "Recent Trends in Urban Occupational Mobility," in Paul K. Hatt and Albert J. Reiss, Jr. (eds.), *Cities and Society* (Glencoe, Ill.: Free Press, 1957), pp. 432-45.

because of their structural position is demonstrated by projecting current patterns of intergenerational mobility under the hypothetical case where no future racial discrimination exists in employment.

FATHER'S OCCUPATION

Our basic source of intergenerational occupational mobility is a table cross-tabulating the current occupations of male respondents twenty-five to sixty-four years of age by their fathers' occupations when the respondents were sixteen (Table 1). These data were obtained by the U.S. Bureau of the Census in a 1962 *Current Population Survey*.[8] The table mixes together a wide variety of cohorts among both generations. A sixty-four-year-old respondent who was born when his father was forty would report his father's occupation for a year actually preceding the birth of some twenty-five-year-old respondent's father. It was necessary to substitute this for the appropriate table based on males thirty-five to forty-four since the latter was not published in full. The two marginal distributions and the principal diagonal were given, however, and show low deviations from corresponding values in the complete table we used. The index of dissimilarity between the present distribution of the occupations of sons in the two tables is only 2 5 for ten occupational classes (excluding those not reporting their father's occupations), while the corresponding index for the occupational distribution of fathers is 1.7.

Negro-white differences in occupational composition in 1960 are shown under the first-generation heading in Table 2. The

TABLE 2

NEGRO-WHITE OCCUPATIONAL COMPOSITION: FREQUENCY DISTRIBUTIONS AND INDEXES OF DISSIMILARITY

Occupation	Percentage Distributions by Generation and Race									
	First (1960)		Second		Third		Fourth		Seventh	
	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro
Professional, technical, and kindred	13	4	18	12	20	18	21	20	22	22
Managers, officials, and proprietors, except farm	14	2	18	13	19	18	20	19	20	20
Sales workers	7	1	7	5	7	6	7	7	7	7
Clerical and kindred	7	6	7	7	7	7	7	7	7	7
Craftsmen, foremen, and kindred	24	13	20	22	19	20	18	19	18	18
Operatives and kindred	20	30	17	22	16	18	15	16	15	15
Service workers, including private household	4	13	5	8	5	5	5	5	5	5
Laborers, except farm and mine	5	22	5	8	5	6	5	5	4	4
Farmers and farm managers	5	4	2	2	1	1	1	1	1	1
Farm laborers and foremen	1	5	1	1	1	1	1	1	1	1
Total	100	100	100	100	100	100	100	100	100	100
Indexes of dissimilarity:										
White-Negro	40		13		4		2		0	
White-equilibrium	16		6		3		1		0	
Negro-equilibrium	48		19		7		3		0	

[8] U.S. Bureau of the Census, "Lifetime Occupational Mobility of Adult Males, March, 1962," *Current Population Reports*, Ser. P-23, No. 11 (May, 1964).

index of dissimilarity between the races is 40. In other words, 40 per cent of one or the other race would have to change occupational categories if the two races were to have identical occupational distributions. Markov-chain analysis enables us to compare the occupations of each race in the thirty-five to forty-four age group with those that would eventually occur in each generation and at final equilibrium, under the assumption that current rates of intergenerational mobility persist indefinitely. This final equilibrium is much closer to first-generation whites than Negroes; the indexes for the two groups from the equilibrium stage are 16 and 48, respectively. (The equilibrium stage is defined in this paper as the point at which *P*, on being raised to successive powers, is equal to a matrix having rows identical to each other to two decimal places. At this point in the process both whites and Negroes have distributions equal to these rows and hence identical to each other to two decimal places. Since the true equilibrium stage is approached but not reached by *P* raised to any power, the white and Negro distributions are never exactly identical but rather converge asymptotically.)

If discrimination had disappeared by 1960, then the next generation of Negro and white men would have had the occupational composition shown under the second-generation heading. If the current set of father-son patterns continue, Negroes and whites will be considerably closer in occupational composition in the next generation (the index of dissimilarity is only 13). The gains for Negroes in one generation without race-specific discrimination are very great. In the first generation, 13 per cent of whites and 4 per cent of Negroes are professionals. By contrast, the Negro percentage in professional occupations would increase in one generation to 12 per cent, while that of whites would increase to 18 per cent. The percentage of Negro professionals would triple in the course of a single generation without discrimination, although it would still be lower than that of whites. The percentage of Negroes employed as laborers (excluding farms and mines) would drop from 22 to 8 per cent in the same generation. It is evident that the second-generation occupational composition of both whites and Negroes is much closer than the first to the final or equilibrium occupational composition. There is a drop in the index from 16 to 6 for whites and from 48 to 19 for Negroes.

In the third and fourth generations the races would, of course, become increasingly alike in their job distributions. By the fourth generation, there would be virtually no difference in occupational composition between Negro and white men aged thirty-five to forty-four, although it would take seven generations for complete equality. In short, were racially based discrimination on the job market to have ended in 1960 in the United States, and if each twenty-year-old father had a son, then under the assumptions described earlier it would take about eighty years before racial occupational inequality would be virtually nil. However, very rapid progress would be made long before this, with a radical decline in racial differences in just one generation, resulting in differences of 6 percentage points or less for any one occupational group. After two generations, or about forty years, there would be differences of 2 percentage points or less.

EDUCATION

Based on a regression analysis of intergenerational occupational mobility in Chicago, Duncan and Hodge reported that the influence of education on a man's occupation is greater than that of his father's occupation. Moreover, they concluded that the latter factor "was influential in large part because of its association with education."[9] Nevertheless, ideally we would like

[9] Otis Dudley Duncan and Robert W. Hodge, "Educational and Occupational Mobility: A Regression Analysis," *American Journal of Sociology*, LXVIII (May, 1963), 644.

to introduce both factors into a Markov process such as that presented by Carlsson for Sweden, in which he was able to consider the joint influence of father's occupation and son's education.[10] Unfortunately, we were unable to obtain such data for the United States. However, the October, 1960, *Current Population Survey* reports the educational status of men twenty to twenty-four years of age cross-tabulated by the education of their fathers.[11]

Table 3 shows the transition matrix that can be developed on the basis of these data. The table slightly misstates final educational attainment since some of the sons

TABLE 3

EDUCATION OF SONS TWENTY TO TWENTY-FOUR YEARS OF AGE BY FATHER'S EDUCATION, 1960

Father's Education	Son's Education: Less than High School	High School	More than High School
Less than high school	.43	34	23
High school . .	.10	36	.54
More than high school	05	.15	.80

Source U S Bureau of the Census, *Current Population Reports, Population Characteristics*, Ser P-20, No 110 (July, 1961), Table A.

may yet complete their education. Such a bias should not be great, however, and therefore this is a reasonably appropriate matrix for the unit of this study, males thirty-five to forty-four. The table shows that father's education significantly influences his sons' education even in the current period of rising levels of attainment. For example, among fathers who failed to graduate from high school, nearly one-half of their sons likewise did not complete high school. This is far greater than the percentage failing to complete high school among the sons of more highly educated fathers. Likewise, there is an orderly and important increment in the percentage of sons attending college which reflects father's education. Fully 80 per cent of the sons of men with some college also went beyond high school, whereas college training was obtained by about one-half of the men whose fathers had only completed high school and one-fourth of those whose fathers did not finish high school.

The educational status of Negroes is lower than that of whites. About three-quarters of the non-white men thirty-five to forty-four years of age in the experienced civilian labor force had not completed high school in 1960, compared with slightly less than one-half of the white males.[12] If the educational-mobility rates for the total population were to operate for both non-whites and whites, the educational status of the two groups would come together over future generations.

In 1960, the index of dissimilarity in education between white and non-white employed men was 29 (see Table 4). This would drop to 13 in the second generation, 6 in the third generation, and would eventually reach 0 in the eighth generation. Thus, if the current relation between fathers' and sons' educations were to persist, educational equality would be fairly close after several generations, with white and non-white difference for each educational class within 3 percentage points at the end of about 60 years. Identical percentage distributions (to whole numbers) would not be attained, however, for about 140 years, allowing 20 years for each generation.

EDUCATION AND OCCUPATION

Examination of the occupational composition of the races in each generation, based

[10] Gosta Carlsson, *Social Mobility and Class Structure* (Lund: C. W. K. Gleerup, 1958), chap. vii.

[11] U.S. Bureau of the Census, "School Enrollment, and Education of Young Adults and Their Fathers: October 1960," *Current Population Reports*, Ser. P-20, No. 110 (July, 1961).

[12] Due to data limitations, it is necessary to use information on non-whites rather than Negroes

solely on the cross-tabulation between occupation and education existing for white men thirty-five to forty-four years of age in 1960, allows us to convert the projected educational differences into a measure of the occupational differences that would result.

TABLE 4

EDUCATIONAL COMPOSITION BY RACE: FREQUENCY DISTRIBUTIONS AND INDEXES OF DISSIMILARITY

Generation and Race	Percentage Distributions			Index of Dissimilarity
	Less than High School	High School	More than High School	
First:				
White	46	31	23	29
Non white	75	16	9	
Second				
White	24	30	46	13
Non white	34	33	33	
Third:				
White	16	26	58	6
Non white	20	28	52	
Fourth:				
White	12	23	64	4
Non white	14	25	61	
Fifth:				
White	11	22	67	2
Non white	11	23	66	
Sixth				
White	10	22	68	1
Non-white	11	22	67	
Seventh.				
White	10	21	69	1
Non-white	10	22	68	
Eighth:				
White	10	21	69	0
Non white	10	21	69	

The relationships between fathers' education and sons' education, and then in turn between sons' education and occupations, are more complex than our data allow for. In particular, it is not possible to determine whether there is any statistical interaction between the variables. Rather, an additive model is assumed in which one can examine the influence of educational attainment on racial differences in occupational composition.

In 1960, as well as in earlier periods, whites and non-whites with the same level of education obtained different degrees of occupational success.[13] Table 5 shows the relationship between education and occupation for men thirty-five to forty-four years of age separately by race. There are differences which are clearly unfavorable to non-whites. For example, a quarter of all non-whites with less than a high school education are laborers (except farm and mine), whereas less than 10 per cent of whites with a similar level of education are so employed. These racial differences in occupational composition between men with the same educational achievement no doubt reflects

[13] See, e.g., Paul M. Siegel, "On the Cost of Being a Negro," *Sociological Inquiry*, XXXV (Winter, 1965), 41–57, and Nathan Hare, "Recent Trends in the Occupational Mobility of Negroes, 1930–1960: An Intracohort Analysis," *Social Forces*, XLIV (December, 1965), 166–73.

discrimination against Negroes on the job market, lower-quality education for Negroes with the same formal levels of attainment as whites, and the technical fact that educational attainment has only been trichotomized.[14]

Using the educational composition projected for future generations of whites and non-whites, we shall assume that there is no longer any discrimination between the races in quality of education under two different conditions: first, that there is no discrimination between job applicants with the same level of schooling and, second, that the influence of education on occupation remains different for the races. The first two columns for each generation show, respectively, the occupational composition of whites and non-whites under the first condition. If the influence of education on occupation for non-white men in 1960 was the same as that found for white men, then in 1960 the index of dissimilarity between the races in occupations for men thirty-five to forty-four years of age would have been 14 rather than 38.[15]

The indexes of dissimilarity indicate that a rapid decline would occur in racial occupational differences if non-white educational mobility were the same as for the total population and if Negroes and whites with the same educational attainment were employed identically in the job market. In the second generation the index would be only 8; in the third generation it would be 4; and virtually complete identity would be reached in the eighth generation, with an index of 0. The progress of occupational equality found earlier by examining the influence of fathers' occupations on those of sons' is rather similar to that obtained by means of this approach to occupations based on the influence of education. The

TABLE 5

OCCUPATIONAL PERCENTAGE DISTRIBUTIONS BY EDUCATION AND RACE FOR MALES IN THE EXPERIENCED CIVILIAN LABOR FORCE AGES THIRTY-FIVE TO FORTY-FOUR, 1960

Occupation	Less than High School		High School		More than High School	
	White	Non-white	White	Non white	White	Non white
Professional, technical, and kindred	2	1	7	3	41	36
Managers, officials, and proprietors, except farm	8	2	16	5	23	8
Sales workers	4	1	9	3	11	3
Clerical and kindred	4	3	10	14	7	15
Craftsmen, foremen, and kindred	29	13	28	18	9	10
Operatives and kindred	31	32	17	26	4	11
Service workers, including private household	5	12	4	15	2	10
Laborers, except farm and mine	8	26	3	13	1	5
Farmers and farm managers	6	4	5	2	2	1
Farm laborers and foremen	3	6	1	1	0	1
Total	100	100	100	100	100	100

Source U S Bureau of the Census, *U S Census of Population 1960. Subject Reports Educational Attainment* (Final Report PC(2)-5B), Table 8

[14] For a description of the inferior educational opportunities for Negroes, see Leonard Broom and Norval Glenn, *Transformation of the Negro American* (New York: Harper & Row, 1965), pp. 90–96

[15] The discrepancy between this index of 38 and the index of 40 reported in Table 2 is due to the fact these data are for non-whites rather than Negroes only and because the data for whites here are based on a 5 per cent sample.

second-generation index of dissimilarity would be 13 under the first model and 8 under the second approach, but they would be identical in the third generation, and both reach exact equality one generation apart. In either case then, a sharp decline in racial differences would occur in the course of one generation if there were no longer discrimination in the United States.

By contrast, observe what happens to white–non-white occupational differences if it is assumed that the influence of education on occupation for non-white men in 1960 applies to future generations of non-whites (shown in the third column under each generation). The index of dissimilarity is actually 38 between the races in 1960. We again observe that racial dissimilarities in occupation decline in each succeeding generation, but at a rather slow rate. The index is 35 in the second generation, 31 in the third, and eventually flattens out at 29 in the eighth and later generations. Non-whites are still occupationally disadvantaged, despite the equality in formal educational attainment, because they do not obtain the same jobs as whites with identical education.

The equilibrium stage under assumption 2 provides important implications about the future status of Negro-white employment if their levels of formal education were the same but the current non-white relationship between education and occupation remained unaltered. Non-whites would still be overrepresented in the lower job levels even after educational parity with whites was achieved. Inspection of the results for the eighth generation in Table 6 indicates that Negroes would be far more likely to be employed as laborers, service workers, and operatives. Although they would also be overrepresented in the clerical occupations, Negro men would be less likely to be employed as managers, officials, and proprietors, as well as sales workers. To a lesser degree they would remain underemployed as professionals and craftsmen.

Compare the actual occupations held by non-white men aged thirty-five to forty-four in 1960 with the occupational composition that would have occurred for non-white men in 1960 if their formal levels of education had yielded the same occupations as those of whites yielded (the second and third columns, respectively, under the first generation in Table 6). The index of dissimilarity in occupations between the races would have been 14 rather than 38. Thus the first index, which reflects only the lower formal education among Negroes, is little more than one-third the size of the actual difference in 1960.[16] The actual racial gap in 1960 reflects the additional influences of discrimination against non-whites of comparable achievement, inferior quality of education for Negroes, the possible masking of greater educational attainment of whites because of the broad categories used, and a wide array of other possible factors, such as access to opportunities.

These results indicate that if Negro formal educational attainment were to reach the same level as that of whites, the effect on Negro-white occupational equality would be limited if other factors remained unchanged. Moreover, if the educational matrixes were to continue to operate in the future, and if the current relationship between education and occupation for non-whites were to remain unaltered, the racial index of dissimilarity in occupations would decline from 38 to 29 after eight generations, but never get lower than that.

DISCUSSION

We have distinguished between two types of handicaps faced by Negroes. The first, discrimination, involves rejection of Ne-

[16] The differences between the two indexes cannot be used to determine the percentage of the actual 1960 index which is not explained by formal educational attainment. The indexes, taken pairwise, are not simply additive. For formulas on the minimum and maximum restrictions, see Stanley Lieberson, *Ethnic Patterns in American Cities* (Glencoe, Ill.: Free Press, 1963), p. 39

TABLE 6

INFLUENCE OF EDUCATION ON OCCUPATION BY GENERATION AND RACE: PERCENTAGE DISTRIBUTIONS AND INDEXES OF DISSIMILARITY

Occupation	First			Second			Third			Fourth			Eighth		
	W	NW*	NW†	W	NW*	NW†	W	NW*	NW†	W	NW*	NW†	W	NW*	NW†
Professional, technical, and kindred	12	6	4	21	16	13	26	24	20	28	27	23	30	30	26
Managers, officials, and proprietors, except farm	14	10	3	17	15	5	19	18	6	19	19	6	20	20	6
Sales workers	7	5	1	9	8	2	9	9	3	10	10	3	10	10	3
Clerical and kindred	7	5	6	7	7	10	8	7	12	8	7	13	8	8	14
Craftsmen, foremen, and kindred	24	27	13	20	22	13	17	18	12	16	17	12	15	15	12
Operatives and kindred	21	27	29	15	18	23	12	13	20	10	11	18	9	9	16
Service workers, including private household	4	5	13	3	4	13	3	3	12	3	3	12	3	3	11
Laborers, except farm and mine	5	7	22	3	4	15	2	3	11	2	2	10	2	2	9
Farmers and farm managers	5	6	4	4	5	3	3	4	2	3	3	2	3	3	2
Farm laborers and foremen	1	2	5	1	1	3	1	1	2	1	1	1	0	0	1
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Index of dissimilarity between whites and non-whites		14	38		8	35		4	31		2	30		0	29

(Column spanner over generations: PERCENTAGE DISTRIBUTIONS BY GENERATION AND RACE)

* Based on white relationship between education and occupation

† Based on non white relationship between education and occupation.

groes simply because they are Negroes; the second occurs because the group occupies an inferior aggregate position on variables which, although racially neutral, operate to their disadvantage. Using an intergenerational approach, by means of the Markov-chain model, we operationalized the end to discrimination by assuming both races follow mobility patterns found to prevail for the total population. Starting with observed Negro and white occupational distributions for 1960, we then traced the changes that would take place over several generations. An alternative approach started with educational mobility, and we then employed the relation between education and occupation to produce comparable occupational distributions.

Using both approaches, Negro and white distributions converged rapidly, at least in terms of a generational time scale, so that differences were negligible after about sixty or eighty years. Whether this convergence is "fast" or "slow" is of course beyond the purview of the sociologist. These data do underscore the position that an end to discrimination will not result in occupational equality immediately. And for those in favor of this equality as quickly as possible, the results may provide some support for programs to speed up the processes of intra- and intergenerational occupational mobility among Negroes.

We wish to reiterate our cautions about the assumptions made, the crudeness of the data used, and the uncertainty about the long-run continuation of the transitional probabilities employed to project future occupational composition. Somewhat different conclusions could be obtained if different assumptions were made about the ongoing social processes. Based on changes in median education between 1940 and 1960, Broom and Glenn projected identical medians for men within forty-five years from 1960, a much shorter period than our approach indicates.[17] However, it appears unlikely, under any circumstances, that Negro-white occupational equality could be reached in a decade or two even if racial discrimination in the job market were completely eliminated.

But even if our data were more complete and included the entire range of working years, occupational structure and changes in structure could not be deduced from intergenerational occupational mobility. We have traced the consequences of certain artificial assumptions on an intergenerational succession of fathers and sons thirty-five to forty-four years old, and any possible implications are so limited.[18]

Based on the gross influence of father's occupation on son's occupation. several generations would be required before racial parity in the labor force could be met, although we found that men thirty-five to forty-four years of age were much closer in occupational composition after one generation. In analyzing the education of men thirty-five to forty-four and its influence on both their occupations and the education of the next generation, it was not possible to consider the effect of occupation on the next generation's educational attainment. However, about a third of the racial difference in occupational composition in 1960 for the thirty-five- to forty-four-year-old generation could be attributed to differences in formal levels of educational attainment. Again, it would take several generations to overcome current educational disadvantages faced by non-whites even if all other factors, including the quality of Negro education and the relationship between education and occupation, were eliminated. Thus our simple projections into the future of current patterns indicate that disadvantages to a group can continue, although not indefinitely, even when the initial thrust of discrimination is eliminated.

An important implication of Markov theory is that the length of time necessary for occupational parity between the races is a function of the transitional matrixes but is

[17] *Op. cit.*, p. 84.

[18] Duncan, "Occupation Trends and Patterns of Net Mobility in the United States."

in general not influenced by the initial vector (in this case, the current occupational or educational composition of the races).[19] As a consequence, the number of generations necessary for the attainment of racial equality in the absence of discrimination is not at all influenced by the initial occupational or educational handicaps but is purely a function of the fluidity between generations in the society. On the other hand, although the time necessary for equality is not affected, the initial occupational or educational differences between the races determine the magnitude of the racial differences in each generation and therefore the severity of the social problem.

Race and ethnic relations nearly always involve one group enjoying an edge over another in the economic and social spheres. In determining the sources of these advantages, it is necessary to consider both the structural, non-racial factors and the discriminatory factors. Granted that the inferior position occupied by a group may often be a product of current and past discriminations, the effect of this position then becomes independent of its causes. In this sense, we have seen that Negro-white occupational differences would not be eliminated immediately after the demise of discrimination. Indeed, if the United States were a castelike society where all children took up the occupations of their fathers, then the absence of discrimination would *never* lead to occupational equality between the races. On the other hand, if occupational mobility were so open that neither fathers' education nor occupations had any influence on the occupations pursued by their offspring (in other words, the p_{ij} values for different i's were all identical for a given j), then discrimination would be the only means for maintaining occupational differences between the races, and the elimination of one would lead to disappearance of the other in one generation. Thus the differential positions occupied by racial and ethnic groups in society may be viewed as a function of the interaction between discriminatory practices and structural, non-racially based, social processes.

University of Washington
and
University of Wisconsin

[19] Thus the time required to reach equilibrium at a given level of precision (say to two decimal places) is determined by the lowest power of the P matrix which has rows with corresponding terms identical to this number of places. Then both the white and Negro distributions are the same as these rows. Except for possible effects of rounding, two initially different distributions should not be equivalent before this point.

Power and Participation in Decision-making in Formal Organizations

C. J. Lammers

ABSTRACT

The notion that influence (power) is not a fixed amount at the disposal of an organization but rather a potentially expanding resource is developed in two directions. First, it is argued that "power raises" for lower-level participants and their effects on the total amount of power available to managers and managed are comparable to wage raises and their effects as described by modern economists. Second, a review of some European research, most of it relating to *indirect* participation (joint consultation), leads to the conclusion that the theorem of expanding power (and, therefore, of the relativity of the conflict of power interests) serves as an explanatory scheme for these forms of participation as well as for the forms of direct participation on which most U.S. research is focused.

The controversy in industrial sociology about the degree to which the interests of labor, management, and other (more or less) organized groups in enterprises are compatible has gradually become institutionalized. Again and again in the last twenty years the advocates of the "functionalistic" approach or the "human relations" philosophy, and usually both, have been castigated for neglecting power and income differences and conflict and competition between contending parties within industry. They are charged also as ultimately playing into the hands of the "powers that be."[1] In medical sociology the battle has started afresh in recent years, along similar lines and with the same rather disappointing results.[2] In both fields the arguments seem to lead to the conclusion that there are two irreconcilable theoretical models in terms of which organizational life can be explained.[3]

[1] E.g., R. Bendix and L. H. Fisher, "The Perspectives of Elton Mayo," *Review of Economics and Statistics*, XXXI (1949), 312-19, reprinted in A. Etzioni (ed.), *Complex Organizations, A Sociological Reader* (New York: Holt, Rinehart & Winston, 1961), pp. 113-26, R. C. Stone, "Conflicting Approaches to the Study of Worker-Manager Relations," *Social Forces*, XXXI (1952), 117-24, W. A. Koivisto, "Value, Theory, and Fact in Industrial Sociology," *American Journal of Sociology*, LVIII (1953), 564-72; W. Hield, "The Study of Change in Social Sciences," *British Journal of Sociology*, V (1954), 1-11; H. L. Sheppard, "Approaches to Conflict in American Industrial Sociology," *British Journal of Sociology*, V (1954), 324-41, L. A. Coser, *The Functions of Social Conflict* (London: Routledge & Kegan Paul, 1956), esp. chap. i; L. A. Coser, "Social Conflict and the Theory of Social Change," *British Journal of Sociology*, VIII (1957), 197-207; C. Kerr and L. H. Fisher, "Plant Sociology: The Elite and the Aborigines," in M. Komarovsky (ed.), *Common Frontiers of the Social Sciences* (Glencoe, Ill.: Free Press, 1957), pp. 281-309, R. Dahrendorf, *Gesellschaft und Freiheit. Zur soziologischen Analyse der Gegenwart* (Munich: Piper, 1961), "Die Funktionen sozialer Konflikte," pp. 112-31; L. Baritz, *The Servants of Power. A History of the Use of Social Science in American Industry* (Middletown, Conn.: Wesleyan University Press, 1960).

[2] E.g., A. Etzioni, "Interpersonal and Structural Factors in the Study of Mental Hospitals," *Psychiatry*, XXIII (1960), 13-22, A. W. Gouldner, "Anti-Minotaur: The Myth of a Value-Free Sociology," *Social Problems*, IX (1962), 199-213, A. Strauss, L. Schatzman, D. Ehrlich, R. Bucher, and M. Sabshin, "The Hospital and Its Negotiated Order," in E. Freidson (ed.), *The Hospital in Modern Society* (Glencoe, Ill.: Free Press, 1963).

[3] To be sure, some of the critics mentioned above (e.g., Stone *op. cit.*, and Coser, *The Functions of Social Conflict* and "Social Conflict and the Theory of Social Change") do point out possibilities of integrating both approaches. However, in analyses of

Particularly now that the comparative sociology of organizations is making headway as a unifying conceptual framework, it is crucial to know whether our research should be guided by one or by two sociological theories of organization.

In this paper an effort is made to point out the possibility of a theoretical integration of some basic postulates of the "functional" and "conflict of interest" approaches by taking recourse to economic theory and to notions derived from the research done on control structures by the University of Michigan's Institute of Social Research. These theoretical insights are then applied to the problems of direct and indirect participation (joint consultation) in decision-making in formal organizations.

CONFLICT OR HARMONY OF INTEREST?

We can define interests as the goals of persons, groups, or organizations to maintain or improve their chances of acquiring income, power, or prestige. The basic question then appears to be whether these goods are scarce. Taking it for granted that some inequality in this distribution is inevitable in formal organizations, one wonders whether the critics of the "functional" and/or "human relations" theories, usually following in the footsteps of Marx, rightly assume that organizational life is in this respect a *zero-sum* game. Those who earn less and those who have less status and less say in organizational policy than others will always be inclined to suffer, if not absolute, then at least relative, deprivation. Therefore—so these critics apparently argue—the limited supply of power, prestige, and income is for now and evermore a potential bone of contention.

However, when treating the problem of income distribution, modern economics no longer takes its starting point from the scarcity but from the affluence postulate,[4] at least for advanced Western economies. The income of the enterprise or industry is seen as a growing rather than as a constant quantity. In the long run, therefore, wage raises wrested from management by governments or trade unions may turn out in practice to heighten the level of income of the company or industry, to the extent that such wage raises stimulate labor productivity and/or purchasing power.

A conflict of economic interest between labor and management may be mitigated not only by the objective consequences of wage raises in the form of increased total income for all parties concerned but also by the "subjective," socio-psychological implications of a raising wage level. When workers become accustomed to regular wage raises, the relative deprivation they experience from comparing their income with that of those who are better off may be tempered somewhat by a relative elation resulting from comparing their present with their past earnings.[5]

Of course, all this by no means implies that all conflict of interests between labor and management as to the distribution of income is erased in an expanding economy. To regard the distributable income not as a fixed but as a potentially growing quantity leads only to the conclusion that under certain conditions no severe conflict of interests exists between the contending parties. Put more precisely, one should not

industrial or medical organizations usually either some sort of "functional" or some sort of "conflict" model is applied to the data. Examples of the latter approach: M. Dalton, *Men Who Manage. Fusions of Feeling and Theory in Administration* (New York: John Wiley & Sons, 1959); A. Strauss, L. Schatzman, D. Ehrlich, R. Bucher, and M. Sabshin, *Psychiatric Ideologies and Institutions* (Glencoe, Ill.: Free Press, 1964). Examples of the functional approach in industrial and medical sociology are so well known that no references need be given here.

[4] J. K. Galbraith, *The Affluent Society* (Harmondsworth, Middlesex: Penguin Books, 1962), esp. chap vii; J. Pen, *Harmonie en conflict* (Amsterdam: Bezige Bij, 1962), chap. v; forthcoming English translation of this publication: J. Pen, *Harmony and Conflict in Modern Society* (New York: McGraw-Hill Book Co.).

[5] See Galbraith, *op. cit.*, pp. 79–80.

presume that in organizations (and in market relations for that matter) either conflict or harmony of interests prevails. Conflict and harmony are merely the two ends of a continuum; they represent the degree to which the economic interests of various parties converge or diverge.

To turn now to the problem of *power distribution*, in sociological theory the advocates of the "conflict of interest" approach customarily have no doubt that power is a scarce commodity. In the expositions of Dahrendorf, for example, there is a fundamental dichotomy between those who wield and those who undergo power, so that in any hierarchically stratified organization a permanent tug of war between "powers that be" and "powers that would like to be" would be either manifest or present as a latent force.[6]

This conception resembles the *static* approach of the older type of economics, in which income was regarded as a constant entity. Applying a more dynamic perspective, power, too, is not necessarily a fixed quantity. Now, this is precisely what Likert, Tannenbaum, and their colleagues postulate as a likely supposition on the basis of their research concerning the influence or control structures of formal organizations.[7]

The definitions given and indexes used by the Michigan researchers for "control" or "influence" justify the inference that they are dealing with the same phenomena that are labeled "power" by other social scientists.[8] Their studies show that "total amount of power" was generally a more effective predictor of organizational productivity and organizational morale than "hierarchical distribution of power." The resulting notion of expanding instead of fixed amounts of power in an organization, put forward particularly by Likert, can be conceptualized in a way similar to the notion of expanding income in economics. Granting more power to subordi-

[6] R. Dahrendorf, *Soziale Klassen und Klassenkonflikt in der industriellen Gesellschaft* (Stuttgart: Ferdinand Enke, 1957), esp. chaps. iv and v. See also Dahrendorf, *Gesellschaft und Freiheit*, esp. chaps. iv, v, and ix. In the work of Dahrendorf, and also in that of his numerous predecessors who emphasized power distribution as a salient variable in social relations, the postulate of scarcity as regards the total amount of power available to an organization or to a social system in general is, on the whole, an implicit assumption. The only explicit statement on this score I have come across stems from Clark Kerr: "The power 'pie,' however, is always fixed in dimensions" ("Industrial Conflict and Its Mediation," *American Journal of Sociology*, LX [1954], 231, n. 3. This "zero sum" postulate also looms large in that branch of the theory of games which is apparently most suitable for application to the sociological study of conflict. See J. Bernard, "The Theory of Games of Strategy as Modern Sociology of Conflict," *American Journal of Sociology*, LIX (1954), 411–24, esp. 412.

[7] See A. S. Tannenbaum, "Control Structure and Union Functions," *American Journal of Sociology*, LXI (1956), 536–45; R. Likert, "Influence and National Sovereignty," in J. Peatman and E. Hartley (eds.), *Festschrift for Gardner Murphy* (New York: McGraw-Hill Book Co., 1960), pp. 214–27; R. Likert, *New Patterns of Management* (New York: McGraw-Hill Book Co., 1961), esp. chap. xii; A. S. Tannenbaum, "Control in Organizations: Individual Adjustment and Organizational Performance," *Administrative Science Quarterly*, VII (1962), 236–57; C. G. Smith and A. S. Tannenbaum, "Organizational Control Structure: A Comparative Analysis," *Human Relations*, XVI (1963), 299–316. The view of power as a potentially expanding property of social systems is already present in the work of Mary Parker Follett, who stated in 1925: "The division of power is not the thing to be considered, but that method of organization which will generate power", see H. C. Metcalf and L. Urwick (eds.), *Dynamic Administration: The Collected Papers of Mary Parker Follett* (London: Pitman, 1941), p. 111. The same insight, although conceptualized in quite a different manner, may be found in T. Parsons, "On the Concept of Influence," *Public Opinion Quarterly*, XXVII (1963), 59–62.

[8] Compare, e.g., the definition of control given by Tannenbaum, "Control in Organizations," p. 239, and by Smith and Tannenbaum, *op. cit.*, p. 299—"any process in which a person (or group of persons or organization of persons) determines or intentionally affects what another person (or group or organization) will do"—with M. Weber's famous definition of power—"Macht bedeutet jede Chance, innerhalb einer sozialen Beziehung den eigenen Willen auch gegen Widerstreben durchzusetzen, gleichviel worauf diese Chance beruht" (*Wirtschaft und Gesellschaft* [3d ed.; Tubingen: Mohr, 1947], p. 28).

nates, for example, by giving them effective opportunities to participate in the preparation and/or making of significant decisions, may boost the joint power of superiors and subordinates alike, in that as a consequence of such procedures subordinates may become more willing and able to carry out decisions in the intended way. In the words of Likert, it is not only the decision but also the implementation of a decision that counts.[9] By ceding power to workers, management improves the chances that its decisions (influenced by or taken jointly with workers) will become effectuated. Therefore, the initial "loss" of power by management can eventually be transformed into a power gain in the sense of a better grip on the organizational apparatus and an increase in external power.

The "mechanism" at work here is not solely the potential motivation of increased upward influence. Giving subordinates more chances to make decisions or to participate in the decisions of higher authorities may also bear fruits because the increased amount of information made available in this fashion to higher levels may easily produce more workable decisions. At this point the analogy with processes of income redistribution no longer holds. Wage raises may increase productivity by providing incentives but not by yielding more data relevant to a decision. "Power raises," to the contrary, can have favorable productivity effects by mobilizing intellectual as well as motivational energy.

With respect to the "mechanism" of increased purchasing power as a consequence of wage raises, for obvious reasons no parallel can be found with respect to the distribution of power. However, as to the "mechanism" of the subjective consequences of a rising wage level, an obvious analogy can be drawn. A power hierarchy is perhaps perceived as less depriving and unjust by those who experience gradual increments of power than it seems to those who cannot look back at and forward to a betterment of position in this respect.[10]

To sum up, managers and managed in organizations can at the same time come to influence each other more effectively and thereby generate joint power as the outcome of a better command by the organization over its technical, economic, and human resources in the service of certain objectives. Naturally, this happens only when the parties concerned have some goals in common. Therefore, the clash of power interests will *ceteris paribus* be more serious the less the principal parties in an organization adhere to common objectives in terms of which the organization's resources can be mobilized more effectively.[11]

The same line of argument may be valid for the prestige distribution. To the extent that the output or social climate of an organization is a source of its prestige in the community or society at large, in the long run prestige raises for the lower ranks may heighten the total amount of prestige the organization can dispose of. This in turn means a status gain of superiors as well as inferiors, so that the potential conflict of prestige interests is also to a variable extent tempered by the mutual interest the contending parties have in raising the total prestige of their organization.

Seldom do the income, the power, and the prestige of an organization depend primarily on the organization itself. Even

[9] Likert, *New Patterns of Management*, pp. 179–80. A quite similar argument to the effect that participation by subordinates not only expands the upward influence of lower echelons in organizations but also increases chances for management to participate more fully in the decision-making process (by heightening its control over the evocation of alternatives) can be found in J. G. March and H. A. Simon, *Organizations* (New York: John Wiley & Sons, 1958), p. 54.

[10] Of course, whether or not this hypothesis is valid can only be established on the basis of research.

[11] Some evidence on this point may be found in the study by C. G. Smith and O. N. Ari, "Organizational Control Structure and Member Consensus," *American Journal of Sociology*, LXIX (1964), 623–38.

in the case of enterprises, external agents (governments, consumers, other enterprises, etc.) limit the degree to which the income, power and prestige available to an organization are expandable. Consequently, there is usually *some* conflict of interests between the parties contending within an organization for these at any rate *relatively* scarce goods. On the other hand, their interests usually also converge to some extent, since all organizational participants have in common an interest in jointly acquiring more income, power, or prestige. This can be achieved in two ways: The first way is by raising the level of effectiveness and/or efficiency[12] of the organization. This may bear fruits in the way of increased income, power, or prestige either automatically or because external agents become more willing to grant raises in income, power, or prestige to the organization as a whole because they are impressed by its achievements.[13] In this case there is a clear mutuality of interests. In the second way the parties concerned may try to wrest from the external agents more income, power, or prestige by putting some kind of direct pressure on them. This can be done jointly (in which case there are again common interests at stake) or separately (then, of course, there often will be a conflict of interests).

For a comparative sociology of organizations, it remains a challenging task to specify the conditions making for more or less conflict of interests within organizations. The renewed emphasis on power interests should be welcomed in this context; since power (and also prestige) issues are at stake in any formal organization, generalizations cutting across the traditional divisions into industrial, military, medical, and other organizations can be sought. In some respects the same applies to differences in income. It is true that only in industrial and commercial enterprises does income depend directly to some extent on productivity, so that only in such organizations can direct conflicts occur between the various producing parties about the distribution of the income available to the organization. However, the less free the individual enterprise becomes in disposing of its own income (increased concentration, more government regulation, etc.), the more competition for income between contending parties takes the form of a separate or joint attempt to manipulate outside agencies. This means that economic organizations become in this respect increasingly comparable to non-economic organizations, where the fight for the spoils of income has always taken place either by joint or by competing pressure(s) of the parties involved on outside decision-makers.

DIRECT PARTICIPATION IN DECISION-MAKING

Participation in decision-making may be defined as the *totality of such forms of upward exertion of power by subordinates in organizations as are perceived to be legitimate by themselves and their superiors*. Participation in this sense can be of two varieties, direct (personal) or indirect (representative). The degree to which individual subordinates in organizations can and do legitimately influence in a direct way the decisions made by their

[12] These terms are used in this article in the same sense as Barnard applies these concepts in chap. i of his classic *The Functions of the Executive* (Cambridge, Mass.: Harvard University Press, 1938), e.g., pp. 43–45.

[13] If it is legitimate to take the percentage of the general public in the community who have heard about a certain organization as an index of its reputation, its external prestige, then research by Kahn, Tannenbaum, and Weiss on the League of Women Voters provides some evidence on this point. They found a positive correlation between the relative power of membership vs. officers in this organization, on the one hand, and the percentage of the public who had heard of the organization, on the other hand. This could mean that the external prestige and even the external power of this civic association depend to some extent on its total amount of internal power. See A. H. Barton, *Organizational Measurement and Its Bearing on the Study of College Environments* (New York: College Entrance Examination Board, 1961), p. 13.

supervisors or managers is obviously closely connected with the *style of leadership* prevalent in the organization in question, while the degree to which the lower ranks collectively possess legitimate means of indirectly influencing decisions taken at higher levels is an aspect of the *system of government* of the organization. The latter topic has been emphasized more often in European, the former more often in American studies. Before jumping to conclusions about "pro-managerial" and "human relations" biases, one should keep in mind that joint consultation and comparable forms of indirect participation are not (any longer) widespread in U.S. work organizations.[14] Consequently, the European sociologist has more opportunities to focus on collective participation than his American colleague. It seems rather clear, however, that to some extent the emphasis on leadership coincides with a "functional" or "human relations" approach, while the conflict-of-interest view is more often found in studies dealing with systems of government of organizations.

To what extent does the theorem of the relativity of conflicting interests in organizations, as outlined above, hold for both direct and indirect participation in decision-making?

There seems little doubt that forms of leadership that allow for *direct participation* (either by the individual alone or by the individual as a member of his colleague group in contact with his superior) often do contribute to the productivity and morale of the employees concerned.[15] Even if such "power raises" make subordinates not more satisfied but simply less dissatisfied,[16] such leadership practices as delegation of authority, consulting one's men, or taking decisions jointly with one's subordinates have been shown to lead to more effective goal attainment in terms of the (not necessarily coinciding) objectives of both the upper and the lower ranks.

It may be mentioned here that several studies carried out in the Netherlands during recent years have yielded the same type of results as the American ones.

Philipsen reports on the results of surveys among blue- and white-collar employees of a factory and among supervisory personnel in public agencies and in hospitals.[17] Three degrees of presence of successful group meetings between superiors and subordinates are distinguished to indicate the perceived opportunities for direct participation in decision-making at higher levels: (1) meetings felt to be always or usually worthwhile, (2) absence of meetings, (3) meetings felt to be always or usually unsatisfactory.

The question used in Dutch ("Are there any meetings with your supervisors in which you can discuss freely what goes on?") was an almost literal translation of a corresponding question in the Michigan research. As in the Michigan studies, it was predicted that unsatisfactory meetings would be "worse" than an absense of such meetings. This prediction was entirely corroborated by the results.

[14] D. C. Miller and W. H. Form, *Industrial Sociology. The Sociology of Work Organizations* (2d ed.; New York: Harper & Row, 1964), p. 759, where it is mentioned that labor-management committees to speed up production flourished in the United States during World War II but have disappeared since.

[15] See, e.g., the overview of the Michigan research along these lines in Smith and Tannenbaum, *op. cit.*

[16] See F. Herzberg, B. Mausner, and B. B. Snyderman, *The Motivation To Work* (New York: John Wiley & Sons, 1959); M. M. Schwartz, E. Jenusaitis, and H. Stack, "Motivational Factors among Supervisors in the Utility Industry," *Personnel Psychology*, XVI (1963), 45-54; M. S. Myers, "Who Are Your Motivated Workers?" *Harvard Business Review*, XLII (1964), 73-88; T. M. Lodahl, "Patterns of Job Attitudes in Two Assembly Technologies," *Administrative Science Quarterly*, VIII (1964), 482-519; F. Friedlander and E. Walton, "Positive and Negative Motivations toward Work," *Administrative Science Quarterly*, IX (1964), 194-207.

[17] H. Philipsen, "Medezeggenschap in de vorm van werkoverleg," in C. J. Lammers (ed.), *Medezeggenschap en overleg in het bedrijf* (Utrecht and Antwerp: Het Spectrum, 1965), pp. 90-126.

It is apparent from the data that, in the first place, the (perceived) chances for upward communication correlate with style of leadership. Socio-emotional or human-relations leadership is in all four samples significantly associated with the perceived presence of successful group meetings, and other indexes of supervisory behavior in several cases point in the same direction.

In the second place, there is evidence that satisfaction with one's management, perception of the degree of co-operation in one's department, and feeling at ease in one's work organization have something to do with opportunities for participation in the decision-making of one's higher authorities.

Furthermore, as can be seen from Table 1, similar correlations came to the fore when the department rather than the individual was taken as unit of analysis. In the factory from which two samples of blue- and white-collar employees were drawn, again socio-emotional leadership and employee morale covary with the success of group meetings in the departments studied. What is even more important, an "objective" measure (or, rather, a measure derived from sources other than questionnaire answers given by employees) also provides evidence regarding the effects of opportunities to participate in decision-making for lower levels. Department productivity, as judged by management and as evidenced by records, seems to be associated with successful group meetings, although according to customary standards the latter correlation is not quite statistically significant.

This analysis yields some evidence, lastly, that not only style of leadership but also aspects of the formal organization determine the degree to which participation becomes institutionalized in the work situation. The higher the level of mechanization of a department, the less the department's employees report successful group meetings.

Another Dutch study, done by Teulings, is of interest because in the Royal Netherlands Blast Furnaces and Steelworks studied formal records were available concerning the presence and frequency of group meetings between supervisors and their workers.[18] Teulings divided the departments into three groups: (1) those in which the committee(s) had met five or more times during the past year, (2) those in which no such committees had ever existed, (3) those in which such committees

TABLE 1

CORRELATIONS BETWEEN SUCCESSFUL GROUP MEETINGS (AS REPORTED BY EMPLOYEES) AND MORALE, LEADERSHIP PRACTICES, AND PRODUCTIVITY IN EIGHT DEPARTMENTS OF A FIRM

Variables	Correlations of Group Meetings with Variables[a]
Leadership practices[b]	
Technical and administrative leadership	19
Human-relations leadership	81*
Morale[c]	
Satisfaction with work and working conditions	67*
Productivity:	
Objective data	62
As judged by management	66*
Characteristics of work process	
Level of mechanization	− 86*

Source: Table adapted from Philipsen (see my n. 17).

[a] Numbers in the body of the table designate Spearman rhos. All tests are one sided. The index of presence of successful group meetings is explained in the text.

[b] Indexes used are a combination of scores for the eight departments given by employees, by management, and by the investigator.

[c] Index consists of nineteen items.

* Significant at the 10 per cent level.

had been instituted but were later abolished or had met fewer than five times during the past year. These sixty committees in thirty-one departments of twelve factories aim at increasing productivity; they are composed of and presided over by department heads and are rewarded for workable proposals.

[18] A. W. M. Teulings, "Leiderschapsklimaat en werkoverleg," in Lammers (ed.), *op. cit.*, pp. 142–51. The frequency distribution was clearly bimodal, with three and nine times as the most common frequencies.

Several indexes of leadership practices of the executives concerned and of the quantity and quality of the productivity of their units were obtained by interviewing the factory managers. The results, given in Table 2, indicate that (according to their superiors) in departments with active productivity committees the executives show the leadership qualities that most people deem desirable more than their colleagues in departments with inactive committees. Factory managers also have a no-less-favorable impression of the productivity of departments in which the aforementioned committees flourish than of the output of departments in which these committees are rather passive.

TABLE 2

DIFFERENCES BETWEEN DEPARTMENTS WITH AND WITHOUT ACTIVE PRODUCTIVITY COMMITTEES WITH RESPECT TO LEADERSHIP PRACTICES AND LEVEL OF PRODUCTIVITY

	SCORES FOR DEPARTMENTS WITH:		RESULT OF STATISTICAL TESTS[a] (P)
	Active Committees ($N=11$)	Inactive Committees ($N=9$)	
Leadership practices:[b]			
Instrumental leadership	9 0	7 8	06
Social leadership	8.4	7 3	04
Stable leadership	9.6	7.7	002
Dynamic leadership	9.0	7.1	002
Level of productivity:			
As judged by factory managers[c]	2 5	2 4	.10

Source. Table adapted from Teulings (see my n 18).

[a] Wilkoxon's two-sample test (one-sided).

[b] Indexes used consist of short (three item) scales per variable and are based on answers given by factory managers concerning leadership behavior of their department heads The scales in question were developed in research of the Netherlands Institute of Preventive Medicine, Leiden, by H Philipsen and C J Lammers, and form an adaptation of Fleishman's Ohio State Leadership scales

[c] Combined for quality and quantity of production, high score is high on productivity

We may conclude that in spite of all the supposed "cultural differences" between the United States and the Netherlands, the Dutch data corroborate the American findings that the chances for individual employees to partake in decision-making by supervisors depend on the style of leadership and the organization of work and that the presence of such chances may contribute to the effectiveness and efficiency of the organization. By the same token there is reason to suppose that, in a European country like the Netherlands, under certain conditions (e.g., a certain amount of effective socio-emotional leadership, work processes providing the employees with some scope for initiative) the granting of power to subordinates is in their interest as well as in the interest of their superiors. Although further research on this point is of course needed, serious doubt is justified regarding the postulate of an unavoidable and omnipresent cleavage of power interests between management and employees. It is more likely that in both American and European work organizations the total amount of organizational power is a potentially expanding force and that thereby the conflict of power interests between rulers and ruled can be mitigated, although not eliminated.

INDIRECT PARTICIPATION IN DECISION-MAKING

With respect to the problems of *indirect participation* by employees in managerial decision-making, it is imperative to be clear as to the differences in setup between both forms of upward influence. In Table 3 a rough comparison is made.

The setup of *indirect* participation (joint consultation) usually implies that the subordinate participants *speak for their constituents* with *top managers* about the *general policy* of the organization; *procedures are formalized* (by laws and bylaws), and *outside agencies* (government, trade unions) often *do influence* to some extent what goes on. *Direct* participation, on the other hand, customarily entails that the subordinate participants *speak for themselves* with *supervisors* about *work or matters related to work;* in general, aims, rules, and means are *not codified*, and *external influences* are normally absent.

Consequently, in principle there is more at stake for both management and employees in indirect than in direct participation. In joint consultation the participating parties are more powerful, the topics that can come to the fore are of greater significance, and the chance for management to operate at its own discretion (unhampered by formal requirements or by outside interferences) is not as great as in forms of personal consultation between a supervisor and his subordinates.

As a result, in many cases managements (and, sometimes for quite different reasons, unions too) obstruct the legal requirements of joint consultation lest they lose their freedom of action. A great variety of such "defense tactics" is found in practices on the Continent.[19] A most simple device to prevent joint consultation from functioning as an opportunity for participation by employees in managerial decision-making is not to institute it at all or to institute it and fail to convene regularly. Using joint consultation not for upward but only for *downward* communication (such as explaining management's actions or exhorting the employees to work harder and better and to drop certain demands) is equally effective as a means of preventing joint consultation from growing into indirect participation.

However, many cases are also encountered in which managerial resistance has deformed indirect into *pseudo-direct* participation in one or more of the five respects

TABLE 3

COMPARISON BETWEEN DIRECT AND INDIRECT PARTICIPATION

	Direct Participation	Indirect Participation
Subordinate party	Employees *à titre personnel*	Representatives of groups or categories of personnel
Superordinate party	Supervisors	Top management
Issues .	Work or work-related matters	General policy of firm
External influences	Absent	Present (government, unions)
Degree of formalization	Low	High (laws, regulations)

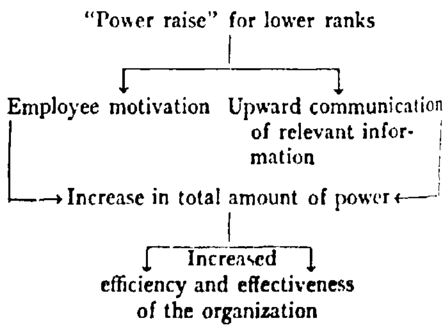
[19] The following account is based on widely scattered evidence of varying reliability (personal experiences, research reports on the work councils in the Netherlands, various sources pertaining to joint consultation in other European countries, etc.) and therefore cannot be regarded as more than the author's general impression. For a description of the systems of collective participation in Germany and France, see A. Sturmthal, *Workers Councils. A Study of Workplace Organization on Both Sides of the Iron Curtain* (Cambridge, Mass.: Harvard University Press, 1964), chaps. ii and iii. See also Miller and Form, *op. cit.*, pp. 757–64.

mentioned above (as variables differentiating between direct and indirect participation; see Table 3). For example, (1) the employer, who both in the Netherlands and in France must preside over the works council, may treat the members not as representatives but as individual employees (taking their expressed viewpoints as "just a personal opinion," trying to manipulate them by means of the positive or negative sanctions at his disposal in the manager-employee relationship, etc.). (2) The general manager may avoid attending meetings himself and send a lower authority, thus lowering the hierarchical level on which the council can exert influence. (3) He may take care that only unimportant problems are dealt with in the council's meetings. (4) He may resist outside interference, for example, by not permitting employee councilors to consult their union experts about complex problems. (5) He can finally try to keep a free hand by not co-operating in drafting the necessary by-laws or by refusing to keep official and detailed minutes of the meetings.

All such practices clearly indicate that joint consultation is often *perceived* by managers as a serious threat to the authority structure of their organizations. However, empirical evidence from Britain, Germany, and France bears out that indirect, just like direct, participation can and sometimes does in the long run benefit management by way of increased power of the organization as a whole. W. Brown, president of the Glacier-Metal Company with its elaborate machinery of a representative system, wonders why managers so greatly fear giving shareholders, boards, consumers, and representatives a say in their plans. Discussion with such interested groups, according to Brown, is indispensable for the simple reason that such groups can prevent the execution of such plans. "It is clear," states Brown, "that many managers who think they have a choice in such matters, and criticize the idea of discussing resistance to their plans with their own people, in fact spend much time doing precisely what they so vehemently oppose. They attempt to initiate change of some sort that gives rise to great anxieties and precipitate strike action. Then they get down to the discussions which might have been so much easier to conduct if held before trouble arose."[20]

It all comes down to the fact that enabling works councils and similar bodies to participate effectively in managerial policies may turn out to be a solid investment that will pay off for management in the form of heightened chances to take adequate decisions and to see certain decisions through.

A "mechanism" similar to the one we encountered in relation to direct participation is at work here: a "power raise" for the lower ranks contributes toward employee motivation and releases relevant information for the upper managerial levels, so that not only do employees become more powerful with respect to their superiors but also managers acquire more power over their subordinates for agreed-upon ends. The increased joint power of the organization yields increased effectiveness and efficiency (see scheme below).



However, in spite of this similarity there is still, as was pointed out in the comparison between these two forms of upward influence (see Table 3), a basic difference between direct and indirect participation with respect to the *kind* of de-

[20] W. Brown, *Exploration in Management* (London: Heinemann, 1960), pp. 223–24.

cisions in which the lower ranks partake and in the *structure* of this process. The "power raise" in direct participation consists of more say regarding work and work-related matters, so that the employee's motivation regarding his *work* or work-related matters is furthered, while a greater amount of relevant *work* information becomes available to executives. In indirect participation, on the other hand, the "power raise" implies to a greater extent the right of groups or categories of personnel *to promote their interests and to present their views concerning general managerial policies.* Consequently, joint consultation can contribute toward employee motivation in the sense of heightened trust on the part of the employees that their interests and views are well represented at top levels. Joint consultation can release relevant information to top executives, not primarily in the form of productivity suggestions, but rather in the form of insight into possible resistance to or alternatives for the managerial actions under consideration.

Now, the main point Brown makes is that no management can avoid some sort of collective influence by its personnel on its central policies. Top executives can only choose between an officially recognized system of representative participation or an irregular, non-legitimated one. Wherever management thwarts the functioning of any kind of indirect participation, an unofficial, non-regulated indirect influence on organizational policy (in the form of work stoppages, restriction of output, high levels of turnover, absenteeism, grievances, etc.) comes to the fore. It follows that from the point of view of management a representative system has potential value primarily because it provides a less costly means to accommodate conflicting interests and viewpoints than non-institutionalized forms of influence exerted by its personnel on the formation and execution of its policy. The available empirical evidence offers some support for this inference, although no definite conclusion can be reached for lack of adequate research seeking an answer to this question. Moreover, systems of collective participation vary greatly not only between but also within western European countries, so that any generalization made on the basis of a few studies is bound to be too sweeping.

As regards *Great Britain*, Brown is clearly convinced on the basis of his experiences with the Glacier Metal's representative system that this is for the company a more effective and for its personnel a more efficient approach to labor-management controversies than any other. Evidence pertaining to this question can also be found among the results of the survey on joint consultation in British industry, carried out between 1948 and 1950 by the (British) National Institute of Industrial Psychology. It appears that joint consultation is less successful (as determined by the investigators on the basis of an elaborate scoring procedure) when matters such as "quality of workmanship," "training," "work tempo," "methods of production," and "reduction of waste" are discussed than when labor conditions, work rules, safety and accidents, and similar topics are taken up in the representative bodies.[21] This corroborates the notion that, for both parties concerned, indirect participation is primarily useful as a way of dealing with potentially controversial subjects and matters of general company policy that are of joint interest to management and labor.

In *France*, Montuclard and his collaborators made a detailed content analysis of the minutes of meetings of the *comités d'entreprise* in eight concerns from about 1945 up to 1958. They recognize four categories of topics considered by these committees:[22] (*a*) the *committee* itself (its organization, budget, relations with the

[21] National Institute of Industrial Psychology, *Joint Consultation in British Industry* (London 1952), pp. 182-83.

[22] M. Montuclard, *La dynamique des comités d'entreprise. Exploration sociologique de quelques effets de l'institution des comités d'entreprise sur les relations industrielles* (Paris: Centre National de la Recherche Scientifique, 1963), pp. 110-14.

personnel at the disposal of the committee, relations with the workers of the enterprise and with the unions), (*b*) *social affairs* (canteens, leisure-time activities, festivities, co-operative societies, and other social provisions for the workers' benefit; the committee has sole responsibility for the administration of such affairs), (*c*) *working conditions* (salaries, employment conditions, and security), and (*d*) *the enterprise* (technical matters regarding the organization of the production process or the equipment and matters concerning the economic and commercial policy of the enterprise).

The authors assumed that in discussions about "working conditions" *conflicting* interests between management and labor are usually involved, whereas discussions about "enterprise" indicate attempts to solve general problems of the enterprise in the light of the *joint* interests of labor and management. The data show that the more attention the committees, at various points in their history, pay to the promotion of the workers' interests ("working conditions"), the more attention they simultaneously pay to the problems of the enterprise as a whole ("enterprise").[23] The investigators had expected the contrary. Because the representatives serving on the committees are in general militant union members and because of the Marxist orientation of the French labor movement, it would have come as no surprise if in the course of their development the committees had gravitated toward either the status of an instrument in the class struggle or the status of a management-oriented body of "loyalists." However, neither proved to be the case. Even in France, joint consultation can function effectively both as a means to accommodate conflicting management-worker interests and as a means to obtain the co-operation of workers' representatives in pursuing the general welfare of the company. It is quite likely that the two tendencies reinforce one another. The more management is willing and able to have general desires and grievances dealt with in the *comité d'entreprise,* the more workers' representatives become motivated to partake in joint efforts to promote the interests of the enterprise. The more the employee representatives are willing and able to co-operate with management in the formulation and execution of its general policy, the more management may be inclined to pay serious attention to workers' interests as brought forward in the committee.

In *Germany,* indirect participation (*Mitbestimmung*) is institutionalized to a higher degree than anywhere else in western Europe. All companies with more than five hundred employees are required to have a works council (*Betriebsrat*), while one-third of the members of the Board of Supervision (*Aufsichtsrat*) must be workers' representatives. In the iron, steel, and mining industries there is parity on the board between representatives of the stockholders and of the workers.[24] Moreover, the heavy industries know the institution of the labor director (*Arbeitsdirektor*); this functionary is appointed by the board and must be reappointed every five years. Because of the composition of the supervisory board, the labor director cannot be appointed or retained against the wishes of the workers' representatives. The labor director, together with the technical and commercial directors, carries the *joint* responsibility for management of the enterprise in all respects.

Most of the research done in Germany on *Mitbestimmung* consists of surveys concerning the opinions and attitudes of workers and of their representatives. On the whole, it appears that workers are positively inclined toward *Mitbestimmung,* do not know much about it, expect mainly benefit to their own position, but are not very satisfied with the fruits of *Mitbestimmung* thus far.[25] Their representatives are usually

[23] *Ibid.,* chap. xvi.

[24] This is true in practice, not in principle. See, e.g., Sturmthal, *op. cit.,* p. 56.

[25] R. Dahrendorf, *Das Mitbestimmungsproblem in der deutschen Sozialforschung. Eine Kritik* (Munich: Piper, 1965), pp. 31–46.

more optimistic about the effectiveness of co-determination. They feel that, on the whole, a betterment of position (wages, security of employment, etc.) has been achieved as a result of this representative system, while at the same time labor-management relations have improved. Of course, workers and their representatives are in general more satisfied with the results of *Mitbestimmung* in the heavy industries than elsewhere.[26]

Obviously, the judgment of the participants in the representative system and that of their constituents provide only tentative evidence regarding the outcome of co-determination. This gives special interest to an elaborate study done under the guidance of Voigt, because in this project not only workers and their representatives but also other informants (technical and commercial directors, board members representing stockholders' interests, trade-union and government officials) were questioned; using at the same time various kinds of documents and statistics (about strikes, wages, prices, investments), Voigt tried in the first place to gauge the *economic* effects of the *Mitbestimmungs* institutions. Although one gets the impression that no very rigorous methods of quantitative analysis were applied, this investigation still is the best available source of data concerning the consequences of the mass "power raise" the German labor movement was able to obtain after World War II through an odd constellation of circumstances.[27]

Voigt reports that in the iron, steel, and mining industries *Mitbestimmungs* institutions have proved to be advantageous for the workers in terms of elevated wage levels, improved employment conditions (e.g., better protection of employee interests in hiring and firing practices) and all kinds of fringe benefits.[28] Particularly under the condition that works council, personnel director, and workers' representatives on the board co-operate closely, indirect participation is a powerful force shaping managerial policy.[29]

To what extent have the fruits of co-determination for labor jeopardized the profitability and expansibility of German industry? Voigt indicates that so far no serious malfunctioning of the German economy has resulted from this system of indirect participation. Apparently, expansion and concentration processes in German enterprises have in no way been hampered by the increased power of labor representatives.[30] Voigt is even inclined to conclude that on the whole *Mitbestimmung* has proved beneficial to German industry.[31] This judgment is based on two grounds. In the first place, the author points to the effects of wage raises on purchasing power and improvement of the quality of labor as a production factor. In the second place, Voigt feels that *Mitbestimmung* has achieved a degree of conflict regulation which ultimately has had positive effects on industrial productivity. The drastic re-

[26] Surveys among labor directors and labor representatives in works councils and Boards of Supervision, which show this result: O. Blume, "Zehn Jahre Mitbestimmung," in E. Potthoff, O. Blume, and H. Duvernell, *Zwischenbilanz der Mitbestimmung* (Tübingen: Mohr, 1962), pp. 277–79; O. Blume, *Normen und Wirklichkeit einer Betriebsverfassung* (Tübingen: Mohr, 1964), chaps. iv, v, and vi.

[27] For an excellent account of the genesis of German co-determination in the heavy industries, see E. Potthoff, "Zur Geschichte der Mitbestimmung," in Potthoff *et al.*, *op. cit.*, pp. 1–54.

[28] F. Voigt, "Die Mitbestimmung der Arbeitnehmer in den Unternehmungen. Eine Analyse der Einwirkungen der Mitbestimmung in der Bundesrepublik Deutschland auf die Unternehmungsführung," in F. Voigt and W. Weddigen, *Zur Theorie und Praxis der Mitbestimmung* (Berlin: Duncker & Humblot, 1962), chaps. vii–xi and pp. 500–518 (Summary).

[29] *Ibid.*, e.g., pp. 225, 280–81, 294, 331–32, and 429.

[30] *Ibid.*, pp. 272–87, 373–86.

[31] This is the general theme running through Voigt's conclusions (see *ibid.*, pp. 500–518). It should be emphasized, however, that Voigt repeatedly warns that his conclusions pertain only to the present time with its favorable economic conditions. The crucial test for *Mitbestimmung*, Voigt feels, will come in times of depression.

duction of strike activity, primarily in the iron, steel, and mining industries, constituted a direct economic gain in that large-scale interruptions of the production process and a relative loss of purchasing power (due to diminished income of the strikers) are avoided. The institutionalization of labor-management conflicts also contributes indirectly to making industry thrive. The tensions which usually precede a strike and the strained relations between management and workers which often follow its settlement probably have an equally negative impact on productivity. Once indirect participation functions as a substitute for real or threatened work stoppages in settling labor-management disputes, there is less chance that such tensions and strains in labor-management relations will affect productivity in a negative manner.

Lastly, it should be reported that Voigt, in view of his findings, repeatedly denies the applicability of a simplistic model presuming an omnipresent cleavage of interests between management and labor. He concludes, for instance, that the majority of personnel directors manage quite well to overcome the potential role conflict following from their double allegiance (to management, on the one hand, and to the workers and unions, on the other).[32] On the basis of this evidence the view of authors like Dahrendorf,[33] who claim that the *Arbeitsdirektor* is faced with an insoluble dilemma—being just another manager or being a bad manager (as a result of the hopeless task of trying simultaneously to serve workers' interests)—can be rejected. Since, at least under present conditions in Germany, the interests of managers and managed are to a large extent compatible, particularly in terms of long-range policy, the labor director can quite well "serve two masters."

Although the above conclusions refer particularly to German heavy industries, Voigt is of the opinion that similar effects are also valid to a lesser, but by no means negligible, extent for the rest of German industry. In this connection it is worthwhile to note a finding from a survey made by Blume. German enterprises with more than one hundred employees are required to institute a so-called economic committee (*Wirtschaftsausschusz*) in addition to the *Betriebsrat*. This economic committee is a purely advisory body with equal representation of management and labor. Management can inform and consult labor representatives concerning economic and technical affairs pertaining to the enterprise. On the whole, in most enterprises this committee is not a flourishing institution.[34] Blume, however, found that in some cases meetings of the *Wirtschaftsausschusz* were the scene of serious controversies and conflicts between labor and management. Interestingly enough, it appeared that such battles in the economic committee were far more typical of enterprises in which the works' council appeared to be *active* and where on the whole quite *positive* relationships between management and labor prevailed than of enterprises in which the *Betriebsrat* was *inactive* and labor-management relations were of a *negative* nature![35]

By way of summarizing, one might say that the German experiences with institutions of *Mitbestimmung* have shown, as in the case of the French *comités d'entreprise* described by Montuclard, that under certain circumstances the goals of workers and management can both be served by indirect participation, since this institution can be used to accommodate conflicting interests and at the same time, or rather thereby, function to promote the effectiveness of the organization as a whole. It does not seem too farfetched to interpret this state of affairs in terms of the notion of expanding power dealt with at the beginning of this paper.

[32] *Ibid.*, pp. 215-16.

[33] Dahrendorf, *Soziale Klassen und Klassenkonflict*, p. 232.

[34] See, e.g., Voigt, *op. cit.*, chap. x.

[35] See Blume, *Normen und Wirklichkeit einer Betriebsverfassung*, pp. 176-78.

DISCUSSION

This article constitutes an attempt to elaborate in two directions the notion of expanding rather than fixed amounts of power being at the disposal of formal organizations. In the first place it was argued that this theorem of the relativity of the conflict of *power* interests bears a fairly strong resemblance to the theorem of the relativity of the conflict of *economic* interests. In the second place, the implications of this notion of expanding amounts of power as developed by Tannenbaum, Likert, *et al.* for *direct* participation were examined for *indirect* participation (joint consultation) and found, *mutatis mutandis*, to be valid in this area as well.

The primary focus of this exposition of similarities in structure and of effects of power processes in direct and indirect participation should, however, not lead to the erroneous conclusion that these two forms of participation in decision-making by lower level participants of organizations are for all practical purposes the same. As was pointed out (see Table 3), there are considerable differences between the "mechanisms" at work in direct participation and those operative in indirect participation. Moreover, detailed research may prove that specific effects of influence by subordinates on higher-level decision-making are quite variable for the participation system of both the personal and the representative variety.

Some scattered research evidence points to the likelihood that effective direct participation in industrial organization bears little or no relationship to effective forms of indirect participation.[36] Obviously, this would mean that different forces are conducive to the functioning of these two kinds of participation. Another inference from the lack of strong correlation between direct and indirect forms of participation would be that the personal, on-the-job influence of the employee and the collective influence of employees via representatives do not reinforce each other to any appreciable extent. This state of affairs implies that it is both possible and desirable to study not only the consequences of direct and indirect participation separately but also, as Patchen did,[37] the consequences of the *joint* operation of both kinds of participation.

Analysis of the *dys*functions of various forms of participation may turn out to be another line of fruitful research. As reported above, the Michigan researchers in the United States and we in the Netherlands found "mock participation" (meetings of superiors and subordinates felt to be always or usually unsatisfactory) less effective and/or efficient than the absence of participation. Interestingly enough, research by Drenth *et al.* in seventeen Dutch factories shows no relationship whatsoever between the "quality" (as judged both by

[36] In Philipsen's still unpublished study of the level of sick absenteeism and various organizational characteristics of eighty-five Dutch firms, there appeared to be a correlation of only 13 (.19 when size is controlled; significant at the 5 per cent level) between an index of indirect participation (the number of labor-management committees convening more than four times a year) and an index of direct participation (combined opinions of the head of the personnel department and of the production manager concerning the degree to which successful meetings between first-line supervisors and their subordinates, and between those first-line supervisors and their superiors, occur).

In another article, "Medezeggenschap in een tiental bedrijven" (*Sociologische Gids*, XII [1965], 269 86), a study of ten firms by A. W. M Teulings and C. J. Lammers, what are in general not-significant correlations of comparable size were found with respect to the relationships between various indexes of direct and indirect participation.

Finally, a study by M Patchen, "Labor-Management Consultation at TVA: Its Impact on Employees," *Administrative Science Quarterly*, X (1965), 149-74, perhaps supplies some data on this point If one takes the "discrepancy in influence between employees and their immediate supervisor" as an index of direct participation, and "participation of work group in cooperative program" as a measure of indirect participation it can probably be inferred from the numerals in parentheses in Patchen's Tables 3 and 4 that there is little or no correlation between these two kinds of participation.

[37] Patchen, *op. cit.*, pp 163 65, 170 72

management and labor representatives) of the works council and such variables as the frequency or duration of meetings of the council.[38] As in the case of direct participation, the sheer activity of a representative system may perhaps have functional as well as dysfunctional consequences for an organization and its members. In what respects precisely do such dysfunctional forms of participation differ from the functional ones? Research on this question is badly needed, since up till now we know only that people who participate in such participation systems feel more satisfied when the meetings are more successful in terms of other criteria as well—a plausible but hardly enlightening finding.

Finally, in terms of the attempted reconciliation between "functional" and "conflict of interest" theories, the question under what conditions a conflict of interests between managers and managed in formal organizations prevails is of crucial importance. As already stated, goal consensus between the major parties involved seems to be one such prerequisite for the mitigation or institutionalization of such conflicts.[39] What factors, however, are conducive to such communality in outlook between rulers and ruled?

For one thing, a rapidly expanding economy seems both in the United States and in western Europe to have been such a precondition for labor and management to discover the common interest in generating their joint power. Perhaps, in general, a high rate of social change in society at large may foster organizational parties' awareness of the fact that joint efforts may prove beneficial to all. The intriguing question then arises of to what extent more goal consensus and less conflict of interests are attained at the level of the individual organization at the price of less consensus and heightened conflict of interests at the level of interorganizational relationships.[40]

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[38] P. J. D. Drenth and J. C. W. van der Pijl, *De ondernemingsraad in Nederland* (The Hague: Commissie Opvoering Productiviteit of the Sociaal-Economische Raad, September, 1966), Part I, pp. 5 and 75–77. Some results of the study by Teulings and Lammers, *op. cit.*, also indicate that the amount of participating activity in an organization is more or less independent of the degree to which such participation is perceived as successful.

[39] See Smith and Ari, *op. cit.*, and Patchen, *op cit*, p. 172, where a correlation of .77 between participation in the co-operative program of TVA and feelings of common purpose with management is reported.

[40] Some remarks on this question may be found in Pen, *op. cit.*

Professional Politicians and Personality Structures[1]

Gordon J. DiRenzo

ABSTRACT

An abbreviated version of the Rokeach Dogmatism Scale was administered to a random sample of Italian parliamentarians and to a quota sample of Italian "non-politicians." Findings substantiate the research hypothesis that professional politicians are characterized by personality structures which are more dogmatic than those of non-politicians, and suggest further that distinctions in terms of such personality structures can be made even more precisely on the basis of political ideology and political party affiliation. Significant relationships are found also between various degrees of religious practice and dogmatism. Variations are explained in terms of fundamental political ideology and methods of political recruitment. Theoretical significance for the functioning of political systems is discussed.

Behavioral scientists have described many of the roles involved in political activity, but the study of political roles has extended only limitedly to the consideration of the total personality structure of the political actor. Our fundamental concern here is to distinguish a general personality type that characterizes the professional politician and to consider in some respects its consequences for political participation.

The general proposition of this study is that any occupation[2] is apt to be marked by a relative concentration of certain kinds of personalities.[3] This assertion is based upon the hypothesis that certain personality types tend to be attracted and/or recruited to particular occupations in a differential rather than in a random or unsystematic fashion, and seemingly so disproportionately as to constitute modal personality types for these occupations. There is some empirical evidence to substantiate this position.[4] The tentatively plausible explanation for this situation is that there is a congruent relationship between the personality and the occupation which is functional for the occupational system and psychologically gratifying for the individual.

METHOD

The professional politician—in fact, political man in general—has been presented rather extensively as a fundamentally authoritarian personality who is motivated basically by the search for personal power.[5]

[1] The author wishes to acknowledge his gratitude to Professor William V. D'Antonio of the University of Notre Dame, and to Professor Milton Rokeach of Michigan State University, for their kind assistance in the research upon which this article is based.

[2] The term "occupation" is used generically for such designations as profession, vocation, career, job, work, etc.

[3] The significance of this issue perhaps was captured initially by Everett C. Hughes, who posed the question: "To what extent do persons of a given occupation 'live together' and develop a culture which has its subjective aspects in personality?" (Everett C. Hughes, "Personality Types and the Division of Labor," *American Journal of Sociology*, XXXIII [1928], 768).

[4] See Alex Inkeles, "Personality and Social Structure," in Robert K. Merton *et al.* (eds.), *Sociology Today* (Glencoe, Ill.: Free Press, 1959).

[5] Eduard Spranger, *Types of Men* (Halle: Max Niemeyer Verlag, 1928), p. 104; Harold D. Lasswell, *Psychopathology and Politics* (New York: Viking Press, 1960), p. 52; Lasswell, *Power and Personality* (New York: W. W. Norton & Co., 1948), p. 22; Robert Michels, *Political Parties* (New York: Collier Books, 1962), p. 205; Alex Gottfried, "The Use of Socio-Psychological Categories in a Study of Political Personality," *Western Political Quarterly*, VIII (1955), 234-47; Rudolf Heberle, "Changing Social Stratification of the

Our methodological approach focuses upon the conceptual orientation of dogmatism which has been offered by Rokeach[6] as an alternative to that of *The Authoritarian Personality*.[7] Rokeach has made a conceptual distinction that allows for different kinds of authoritarianism by avoiding reference to the specific or *substantive content* of authoritarian ideologies and concentrating instead on *formal content*—that is, what they seem to share in common—and, even more particularly, by concentrating on the *structural properties* common to various authoritarian ideologies. Dogmatism is defined as "a relatively closed cognitive organization of beliefs and disbeliefs about reality, organized around a central set of beliefs about absolute authority which, in turn, provides a framework for patterns of intolerance and qualified tolerance towards others."[8] It is thus not so much *what* as *how* one believes that distinguishes the dogmatic personality structure.

INSTRUMENT

The operational measurement for dogmatism is the Dogmatism Scale. Since we felt that the length of a personality inventory would be a crucial consideration with political subjects, we adopted an abbreviated version of the Dogmatism Scale, known as the D-10 Scale.[9] Its coefficient of reproducibility in the scalogram analysis is .83, which leaves some question about the unidimensionality of this instrument.

The D-10 Scale was standardized for Italian usage by the author with the assistance of Italian psychologists.[10] Validation for the discerning power of the Italian instrument was performed by using a modi-

South," *Sociology and Social Research*, XXXVIII (1959), 481; Donald R. Matthews, *Social Backgrounds of Political Decision-Makers* (New York: Doubleday & Co., 1954), p. 57; Matthews, *U.S. Senators and Their World* (Chapel Hill: University of North Carolina Press, 1960), p. 48; Robert E. Lane, *Political Life* (Glencoe, Ill.: Free Press, 1959), pp. 123–24; Anthony Downs, *An Economic Theory of Democracy* (New York: Harper & Bros., 1957), pp. 27–36; Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy* (New York: Harper & Bros., 1950), p. 282.

Empirical evidence for this position is inconsistent. See John B. McConaughy, "Certain Personality Factors of State Legislators in South Carolina," *American Political Science Review*, XLIV (1950), 897–903; Bernard Hennessy, "Politicals and Apoliticals: Some Measurements of Personality Traits," *Midwest Journal of Political Science*, III (1959), 336–55; Louise Harned, "Authoritarian Attitudes and Party Activity," *Public Opinion Quarterly*, XXV (1961), 393–99; Rufus P. Browning and Herbert Jacob, "Power Motivation and the Political Personality," *Public Opinion Quarterly*, XXXVIII (1964), 75–90; Robert E. Lane, "Political Personality and Electoral Choice," *American Political Science Review*, XLIX (1955), 173–90; Fillmore H. Sanford, "Public Orientation to Roosevelt," *Public Opinion Quarterly*, XV (1951), 189–216; Paul H Mussen and Anne B. Wyszynski, "Personality and Political Participation," *Human Relations*, V (1952), 65–82; and L. W Milbrath and W. W. Klein, "Personality Correlates and Political Participation," *Acta Sociologica*, VI (1962), 52–66.

[6] Milton Rokeach, *The Open and Closed Mind* (New York: Basic Books, 1960).

[7] T. W. Adorno, Else Frenkel-Brunswik, D. J. Levinson, and R. N. Sanford, *The Authoritarian Personality* (New York: Harper & Bros., 1950).

[8] Milton Rokeach, "The Nature and Meaning of Dogmatism," *Psychological Review*, LXI (1954), 195.

[9] This shortened form was developed by Schulze, who utilized Guttman's scalogram analysis to select those items from the Dogmatism Scale which best meet the various criteria of unidimensionality, item consistency, and reproducibility, and which are most representative of the single factor of dogmatism. The D-10 Scale was tested for validity with two samples. The coefficients of correlation between the final forty-item version of the Dogmatism Scale (D-40) and the D-10 Scale were 76 and 73, respectively. These are somewhat inflated, of course, since identical elements appear in both scales. Coefficients of correlation similar to those of the parent scale were obtained when the shortened version was associated with instruments measuring other elements in the dogmatism syndrome (Rolf Schulze, "A Shortened Version of the Rokeach Dogmatism Scale," *Journal of Psychological Studies*, XIII [1962], 93–97).

[10] The author wishes to express his appreciation for this assistance to Professor Luigi Meschieri of the Institute of Psychology of the Italian National Research Council, and to Professor Pier Giovanni Grasso, director of the Institute of Psychology of the Salesian University.

fication of the "Method of Known Groups."[11] Favorable statistical results were obtained in several applications of this procedure. Directions for answering the D-10 Scale were basically the same as those used by Rokeach in his original work with the exception of one modification. The usual six alternative answers of the Likert form were modified to four (agree-disagree partially, agree-disagree completely) which are more standard in Italian psychological terminology and usage. No "neutral attitude" response was used in order to force a selection on the abbreviated instrument. The dogmatism score was computed on a positive or negative basis within a possible score range of −20 to +20.

POLITICAL SAMPLE

The universe of subjects for this research constitutes the male membership of the Chamber of Deputies of the Italian Parliament for the year 1961 (Third Republican Parliament). The established sample was to include all of the members of the smaller parties, and a 20 per cent selection of the larger parties which was drawn by means of a table of random numbers. We managed to make direct contact with 145 deputies out of the potential sample of 193 (32 per cent of 596 Chamber members). Of this number, six had to be deleted from our analysis due to the lack of responses on key questions, seven accepted instruments for self-completion but failed to return them, and only three openly refused to be interviewed. On this basis, we feel that the sample is free from self-selection.

The final number of subjects that entered into the study is 129, which constitutes about 22 per cent of the universe for Chamber membership. While our sample represents about one-fifth of the total membership of the Chamber, the percentage of the individual parties represented in the sample is much greater in many cases, particularly those of the smaller parties Table 1 contains the relevant data for the universe and sample selections. The po-

TABLE 1

DISTRIBUTION OF POLITICAL AND NON POLITICAL SAMPLES BY POLITICAL PARTY AFFILIATION

Party	Percentage Universe*	Percentage Political Sample	Percentage Non political Sample
Christian Democracy (DC)	45 8	24 0	31 8
Italian Social Movement (MSI)	4 0	13 9	13 7
Italian Communist party (PCI)	23 6	19 3	8 0
Italian Democratic party (PDI)	3 1	2 3	6 4
Italian Liberal party (PLI)	3 0	8 5	10 0
Italian Social Democratic party (PSDI)	2 8	6 2	8 4
Italian Socialist party (PSI)	14 5	16 2	9 1
Miscellaneous†	2 8	9 1	7 0
Total	99 6	99 5	94 4‡

* Represents composition of the Chamber of Deputies and may be taken as a reflection of the popular strength of these parties.

† Includes representatives and supporters of the Italian Republican party (PRI)

‡ Five per cent had unknown political preferences

[11] Details on this procedure may be found in my "A Social Psychological Analysis of Personality Structures of Members of the Italian Chamber of Deputies" (doctoral dissertation, University of Notre Dame, 1963; Ann Arbor: University Microfilms, Inc., #63-7323); also in my "Standardizzazione Italiana della Scala di Dogmatismo di Rokeach," *Orientamenti Pedagogici*, XII (1965), 926 39.

litical sample is adequately representative of the membership of the Chamber of Deputies. Approximate frequency distributions have been obtained for the following factors: age, education, occupation, parliamentary experience, and regional constituencies represented.

The D-10 Scale was administered to the political sample in schedule form as part of a private interview which was conducted with each subject. All of these data were collected during the months of May–August, 1961.

CONTROL GROUP

In order to relate the findings for the political sample to non-politicians, a control group was drawn from the Italian population. A simple quota sample was established of about five hundred individuals who were administered a brief schedule consisting of the D-10 Scale and several questions relating to social and political backgrounds. Each of twenty-five freshmen students at the University of Rome who were taking courses in public opinion was instructed to select twenty respondents for this purpose. Specific directions were given to approximate proportional distributions of the political sample in terms of sex, age, education, and professional backgrounds. The choice of individual subjects beyond these requirements was left to the student pollsters. Well over five hundred respondents were obtained. From this number was extracted a usable sample of 436 "non-political" individuals who neither had been elected to political office nor had been political candidates.

Since professional politicians at the parliamentary level are seldom representative of the total general population which they represent, the non-political sample as selected should not be expected to be a precisely matched control in terms of frequency distributions for political party affiliation and social background factors, such as religion, occupation, and education. It is, in fact, somewhat skewed in terms of religion toward Catholicism and in terms of education toward the upper levels. Moreover, supporters of the Christian Democratic party are represented disproportionately.

The control group in some respects is apt to be more representative of the general Italian population. In drawing this control, however, we were confined to the geographic locality of metropolitan Rome. Regional and provincial residence in Italy seems to be a social and psychological variable of considerable importance. Perhaps, in this regard, the control is not truly representative of the Italian population and is apt to be predominantly southern in mentality. Nevertheless, in spite of these handicaps, the non-political sample, which we use as suggestive rather than probative, appears to be a suitable control for our purposes, particularly since the critical variables are more likely to be skewed antithetically to the hypothetical directions.

HYPOTHESIS

The specific hypothesis that constitutes the focus of this study is simply that professional politicians are characterized by personality structures which are more dogmatic than those of non-politicians. The test of this hypothesis will be made by comparing our dogmatism data for the political sample to those of the non-political control group.

FINDINGS

Our data show that professional politicians appear to be generally dogmatic in personality structure. Seventy-six per cent of the sample scored positively (dogmatic) on the D-10 instrument, and 21 per cent negatively (non-dogmatic), within the possible range of −20 to +20. The mean dogmatism score for this sample is 5.51, with a standard deviation of 6.75.

For the non-political control group, we found that, of the total of 436 individuals, 74 per cent scored positively and 20 per cent negatively, as determined along the possible score range of −20 to +20. The remaining 6 per cent obtained neutral

scores. The mean dogmatism score for the entire control group was 3.66, with a standard deviation value of 5.36.

Proportionately, in terms of personality type and absolute measure, there is no substantial difference between the two samples. In terms of valence, however, there is a crucial difference. The statistical application of Student's method to the means of these two samples yielded a *t*-value of 3.245, which is statistically significant at the .01 level. This evidence substantiates the research hypothesis and suggests that politicians and non-politicians can be distinguished in terms of the dogmatic personality structure.[12]

This consideration of the dogmatic political personality may be pursued with an analysis of the comparative political and non-political findings for each of the major political parties. Using Student's *t*, a test of difference was applied to the mean D-10 scores for each party. As may be seen in an inspection of Table 2, the political sample mean is greater than that of the non-political sample for all except three parties: Communists (PCI), Socialists (PSI), and Liberals (PLI). No statistically significant differences were found, however, between the respective means in these three parties.

Statistically significant differences were derived for all other parties with the exception of the Republicans (PRI): for Christian Democrats (DC) and the neo-Fascists (MSI) at the .001 level; for the Social Democrats (PSDI) at the .01 level; and for the Monarchists (PDI) at the .05 level. Significant perhaps is the fact that politicians and non-politicians of the political center and the political right tend to differ in personality structure, whereas similarities in personality structure tend to be found for parties on the political left. The respective exceptions are the PRI and the PLI; however, the latter showed only a slight difference.

Significant relationships are found between various degrees of religious practice and dogmatism. As may be seen in Table 3, the lowest dogmatism means (1.73) in the political sample was derived for non-believers, whereas respondents professing

TABLE 2

MEAN DOGMATISM SCORE COMPARISONS OF POLITICAL AND NON-POLITICAL SAMPLES FOR INDIVIDUAL PARTIES

Party	Political Sample			Non-political Sample			*t*-Value	α
	N	$\bar{X}$	S.D.	*N*	$\bar{X}$	S.D.		
DC	31	7.96	6.48	139	3.91	4.58	4.069	.001
MSI	18	9.55	3.90	60	3.91	5.58	3.949	.001
PCI	25	.92	5.49	35	2.88	5.01	1.425	n.s.
PDI	3	9.33	4.64	28	3.07	4.86	2.059	.05
PLI	11	4.00	5.29	44	4.52	5.36	.285	n.s.
PRI	5	8.00	3.52	28	4.10	5.09	1.590	n.s.
PSDI	8	9.00	3.39	37	1.41	7.30	2.804	.01
PSI	21	2.23	7.70	40	5.20	5.57	1.692	.1
Total*	129	5.51	6.75	436	3.66	5.36	3.245	.01
	$F=4.368$, $p<.01$, df_b, 7, df_w, 114			$F=1.729$, $p>.05$; df_b, 7, df_w, 403				

* Includes minor party affiliates.

[12] The term "dogmatic personality" has never been used by Rokeach. It should be understood, therefore, as an innovation of the present writer.

Catholicism yielded means in the various categories of religious practice that average 7.33—clearly a marked discrepancy. Again, the findings for the religious variable are not consistent between the political sample and the non-political control group. An analysis of variance applied to the categories of religious practice for the political sample yielded an F-ratio of 4.510, which is statistically significant at the .01 level. No statistical significance on the basis of the same procedure was found for the non-political control group ($F = 1.137$); there is, however, a pattern of response similar to that for the political sample.

With the exception of religious practice, our data show no relationships between dogmatism and social background factors. These include age, educational level, parliamentary experience, and the geographic region of constituency. No statistically significant differences were obtained on the basis of analyses of variance applied to the means of all the subcategories for each of the factors. Moreover, a precise inspection was made for differences between individual combinations of the categorical means. Utilizing Student's t, with statistical significance acceptable minimally at the .001 level under these conditions, none of the derived t-values is statistically significant.

DISCUSSION

We offer two explanations to account for the outcome of the parties which show higher (but not statistically significantly different) dogmatism means than the corresponding non-political samples. One includes a question of fundamental ideology, and the other involves the processes of political recruitment.

TABLE 3

MEAN DOGMATISM SCORES OF POLITICAL AND NON-POLITICAL SAMPLES FOR RELIGIOUS PRACTICE

Religion	Political Sample			Non-political Sample			t-Value	a
	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.		
None	41	1.73	6.38	20	2.80	5.34	.637	n.s.
Catholic (1)*	38	7.55	6.64	144	3.82	6.01	3.309	.001
Catholic (2)	11	9.18	3.48	95	4.18	4.90	3.258	.01
Catholic (3)	5	6.80	4.87	66	3.39	4.87	1.489	.20
Catholic (4)	17	8.35	6.07	64	3.75	4.81	3.264	.01
Catholic (5)	13	4.76	5.88	20	2.80	6.11	.885	n.s.
	$F=4.510$, dfb, 5; dfw, 119; $p<.01$			$F=1.137$; dfb, 8†; dfw, 426; $p>.05$				

* Catholic categories indicated here refer to the intensity of religious practice (1) attends church at least once a week, (2) nearly every week, (3) about once a month, (4) only for the major festivities, and (5) never attends church.

† This test involves three other categories of religious practice which are omitted here because there are no corresponding affiliations for the political sample with which to make a comparison.

Our data reveal parallel associations among political ideology, religious practice, and dogmatism which make for theoretical consistency. No religious tenet is explicit in some political ideologies, although in platform all tend to be either anticlerical or quite respectful to the church. The "pro-church" parties—the more dogmatic ones — are found on the conservative right, while the "anti-church" and less dogmatic ones are on the liberal left. Specifically, there are marked correlations between membership in the PCI and the PSI and the lack of adherence to any religious ideology. This finding is consistent with the political ideology of these two socialist parties.

Politicians should be expected to be more

committed to party ideology than the non-political followers, for whom party affiliation in this study is merely a matter of expressed preference. Moreover, given the popular followings of the PCI and PSI, one could question the intellectual receptivity of the populace for Marxism on the grounds of educational and literacy levels. Italian people—that is, the general population—are not ideologically oriented, except in terms of religion, in their political behavior.[13] Therefore, in the cases of the PCI and the PSI, we would expect to find more atheists among the political sample and more Catholics among the non-political sample, given the religious orientation of the nation. Ninety-two per cent of the PCI representatives professed no religion; whereas, in the non-political control group for the PCI, 61 per cent claimed to profess Catholicism. For the PSI political sample, 62 per cent, as opposed to 8 per cent of the non-political control group, claimed to be non-believers. The element of commitment to political ideology would seem to account for the lesser degree of dogmatism in the non-political sample of these two parties.

The second, and perhaps more crucial, element for explaining the pattern of findings for personality structure along the lines of political parties is that of recruitment procedures. Under the election system used in Italy, the political parties are able to exercise considerable control over the candidates who are offered to the voters, and to a great extent actually determine the results of the popular elections and those who will be recruited into the system.[14] Methods of recruitment are not consistent in the individual parties. There is some evidence that the parties of the political left—the PCI and the PSI—are the least democratic in the selection of candidates, or the recruitment of representatives. About one-fourth of our political sample—and these came almost exclusively from the two parties in question—stated that the decision to place their candidacies for the Chamber was not their own, but that of their party.

We contend that the difference in dogmatism scores for the individual political parties may be influenced strongly by the various methods of recruitment. There may be a selective bias operating, in that party leaders apparently choose—knowingly or unknowingly—individuals with particular kinds of personalities. Kogan, in speaking of the Italian situation particularly, states: "The party leaders are more likely to choose candidates who will be reliable followers rather than independent and individual thinkers."[15] And we suggest that they do so for the purpose that these particular kinds of personalities are functionally necessary for the party and its political system. This situation, then, raises the question of whether such political representatives should be considered as recruited (appointive) or self-recruited (elective) politicians. Our hypothesis is directed exclusively to the latter type, but apparently both types of political man are present in our sample. The evidence suggests that where self-recruitment is allowed to operate politicians are more likely to be dogmatic and authoritarian personalities, but that where the recruitment process is controlled a differential selection of personalities may be operating according to the needs of the

[13] Norman Kogan, *The Government of Italy* (New York: T. Y. Crowell Co., 1964), p. 5.

[14] The method of voting in Italy is known as the *scrutinio di lista* or list vote. Although there are many variants of this method which has been adopted by several countries on the European continent, the basic principle is that the elector votes not for an individual candidate or candidates but, rather, for a party list of candidates. Strictly speaking, therefore, the competition is not among individual candidates but, rather, among the political parties. Thus, the electors determine how many seats each party shall receive, but it is the party organization that decides who shall occupy them. The *cursus honorum* in this system may be more in the nature of an ascribed rather than an achieved social status. This is an important fact to bear in mind for the analysis of our data.

[15] Kogan, *op. cit.*, p. 9.

system. Thus, in this latter case, the hypothetical conception of the dogmatic political personality may or may not obtain. On the other hand, this element of differential recruitment, in terms of our findings, should serve to substantiate further our research hypothesis that the self-recruited (elective) professional politician is dogmatically closed-minded in personality structure.

Not all of the subjects in our political sample manifest the political personality in the conception presented here. We have hypothesized the existence of only a modal type, which has been confirmed by our methodological procedures. There may be a host of sociological and psychological factors at work in individual cases to account for higher or lower scores on the dogmatism measure.

A more specific delineation of the politician in terms of the degree of one's professionalization to political life is apt to reveal significant differences of a more precise nature in the political personality structure.[16] Other factors involved in a more precise analysis of such data on the political personality would include (1) the status level of political office within the system,[17] (2) the function of the particular political office (including the overlapping executive branch or other political functions), (3) the type of social routes that are used to reach political office, (4) political opportunism, (5) fundamental differences in political parties in terms of ideology and structural organization, (6) the element of party factions, and (7) self-images and conceptions of the political (parliamentary) role.[18] The delineation of the professional politician in terms of more precise considerations, such as these, may reveal an association of differential personality structures.

The significance of these findings for explaining political behavior may be noted in a consideration of the functional congruence between personality systems and the political systems in which they operate. In order for social systems to function as they have been structured to function, the personality systems involved have to operate in harmony with the social system. The problematic situation is that social systems may recruit personalities that, by and large, do not or cannot function effectively within particular social systems.

Our argument implies that the form of government in a particular social system is related to the kind of personalities that are recruited into the polity, or who are potential recruits for that system. Specifically, in reference to our data, the dogmatic and authoritarian personality contains those psychological elements which are considered to be pathological to such an extent that they inhibit one's contribution to the demo-

[16] Sartori, in his study of the Italian parliamentarian, distinguishes three categories of "professionalization to political life." These are the nonpolitician (the gentleman politician), the semiprofessional politician (one who has another occupation and is not interested in politics primarily for party interests), and the professional politician (Giovanni Sartori, "Parliamentarians in Italy," *International Social Science Journal*, XIII [1961], 583–99).

[17] We are suggesting that party representatives be distinguished in terms of "leaders" and "representatives." Lasswell speaks on this question when he offers this hypothesis: "Intensely power-centered persons tend to be relegated to comparatively minor roles." That is, he claims this to be true more likely of dogmatic personalities (Harold D. Lasswell, "The Selective Effect of Personality on Political Participation," in Richard Christie and Marie Jahoda [eds.], *Studies in the Scope and Method of "The Authoritarian Personality"* [Glencoe, Ill.: Free Press, 1954], p. 222).

[18] One of the focal aspects of the relationship of personality to occupational structures should concern the conceptions of the social roles involved, and the specific role behavior which takes place. Our data suggest that among the parliamentarian subjects there is by no means a homogeneous conception of their political role—in terms of either what it is or what it ought to be. Relevant in this regard would be a delineation in terms of such role-taking conceptions as (1) parliamentarian, (2) representative, and (3) clientelistic, which have been proposed by John C. Wahlke, H. Eulau, W. Buchanan, and L. C. Ferguson, *The Legislative System* (New York: John Wiley & Sons, 1962), Part IV.

cratic process.[19] Yet, we would not contend that all agents of a particular system need to be either democratic or authoritarian in personality structure, as the case may be, but only that the active co-operation of a sufficient number of the respective type is required for the system to function in either a democratic or authoritarian manner. In fact, it is possible that all decision-making cannot be—from a functional perspective—the result of an exclusively democratic or authoritarian process, as the case may be. Both types of roles may be required in any system. The crucial factor is the modality of the personality structures that characterizes the system. Any political system—of whatever form—needs the functional support of a sufficient number of congruent personalities. There is some empirical substantiation that this situation obtains.[20]

Any situation that does not maintain an effective degree of congruence between the two systems is apt to result in dysfunctional consequences for either the personality systems or the social systems—or both. Stability and change in social organization (social systems) is, to an extent, a function of the respective congruity or incongruity which they share with the personality systems involved therein. The greater the congruity, the more stable the organization and the more minimal the social change. We should suggest, for example, that political consensus and cleavage—exemplified in such forms as alliances, coalitions, factions, and changes in party affiliation—may be a function of the composition of the total personality structures within any given political systems.[21]

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[19] For a treatment of this question, see Robert E. Lane's "Notes on a Theory of Democratic Personality," *Political Ideology* (Glencoe, Ill.: Free Press, 1962), pp. 401–12.

[20] See Henry V. Dicks, "Personality Traits and National Socialist Ideology," *Human Relations*, III (1950), 111–53; and Alex Inkeles, Eugenia Hanfmann, and Helen Beier, "Modal Personality and Adjustment to the Soviet Socio-Political System," *Human Relations*, XI (1958), 3–22.

[21] See my forthcoming volume, *Personality, Power, and Politics* (Notre Dame, Ind.: University of Notre Dame Press, 1967).

Dissonance-Congruence and the Perception of Public Opinion[1]

Kenneth W. Eckhardt and Gerry Hendershot

ABSTRACT

The discrepancy between prevailing public opinion and what various community members estimate as public opinion has traditionally been explained through either the social or psychological characteristics of respondents. In this paper we attempt to account for degrees of public-opinion awareness through a model based on the relationships among an individual's opinion, his cognitive set, and the majority opinion of public members. A theory of imbalance is developed and tested in the context of public opinion in a college community.

Public opinion on social issues is seldom unanimous, and, while its development is a collective process, not all individuals contribute equally to its formation, nor are all members of the public equally informed as to the character and direction of the composite opinion.[2] The discrepancy between one's estimate of public opinion and the actual distribution of opinion in the community has been the focal point of research for several decades.[3] Working primarily within the traditions of their own fields, psychologists and sociologists have been developing complementary but disparate theories in an attempt to explain the differential assessments of public opinion held by individuals. Theorists approaching the problem within the framework of psychology have tended to emphasize attitudinal and personality components in their search for explanatory variables,[4] while theorists in the tradition of sociology have stressed interaction variables and especially the individual's position in the communication network.[5]

As the evidence has accumulated, it has become increasingly evident that as self-contained theories neither approach offers much promise. It is generally established that attitudinal and personality components enter into an individual's perception and assimilation of information[6] and that situ-

[1] We gratefully acknowledge the financial assistance provided by the Committee on Faculty Development at the College of Wooster.

[2] Conceptually the term "public opinion" is ambiguous. Although most theorists recognize the social-interaction dimension in the development of public opinion, the concept has been operationally defined in a variety of ways, e.g., (1) as the summation of individual opinions on a social issue, (2) what individuals think are the opinions of others, and (3) what a collectivity of individuals has quasi-formally decided to be the "view" of the public. In this article we treat public opinion as the summation of individual opinions on a social issue as they have been shaped by social interaction. For discussions of the theoretical and methodological issues in the concepts "public" and "public opinion," see G. D. Wiebe, "Some Implications of Separating Opinions from Attitudes," *Public Opinion Quarterly*, XVII (Fall, 1953), 328-52; H. H. Hyman, "Towards a Theory of Public Opinion," *Public Opinion Quarterly*, XXI (Spring, 1957), 54-60; and E. Freidson, "Prerequisite for Participation in the Public Opinion Process," *Public Opinion Quarterly*, XIX (Summer, 1958), 91-106.

[3] The most recent treatment of the problem appears to be W. Breed and T. Ktsanes, "Pluralistic Ignorance in the Process of Opinion Formation," *Public Opinion Quarterly*, XXV (Winter, 1961), 382-92.

[4] An adequate review of psychological variables and processes is contained in Arthur R. Cohen, *Attitude Change and Social Influence* (New York: Basic Books, 1964).

[5] An enlightened sociological perspective is presented by J. W. Riley and M. W. Riley, "Mass Communication and the Social System" in R. Merton *et al.* (eds.), *Sociology Today* (New York: Basic Books, 1959), pp. 537-78.

[6] D. Kretch, R. S. Crutchfield, and E. Ballachey, *Individual in Society* (New York: McGraw-Hill Book Co., 1962), pp. 17 ff.

ational and interactional variables influence the individual's exposure to communication.[7] What is required, therefore, if we are to move toward explaining the differential assessments of public opinion held by individual members, is a general theory which incorporates both perspectives. Such a theory must be flexible enough to include both psychological and sociological variables and yet remain logically consistent and empirically sound. In this paper we attempt to provide such a theory.

Our purpose is to present a theoretical model which generalizes the findings of past research and permits the deduction of empirically testable hypotheses. The body of the paper is divided into two sections: Part I is concerned with theory construction, while Part II presents empirical data supportive of the model.

I. GENERAL THEORY

The model proposed herein is constructed on the basis of two familiar and widely accepted assumptions.[8] While it is recognized that the assumptions require qualification in certain contexts, they are stated in a universally valid form for purposes of discourse. Assumption 1: Individuals seek to validate their attitudes, opinions, and behaviors. Assumption 2: Individuals seek to make related attitudes, opinions, and behaviors consistent.

Assumption 1 accepts as valid the social psychological notion that individuals are continually engaged in a process of relating their ideas and behaviors to experience. When one speaks of an individual as seeking to validate his behaviors (mental or physical), the reference is to the notion that the individual is continually referring his behaviors to either (1) cognitive patterns he has developed through socialization, (2) group opinions, values, and norms which serve as points of reference, or (3) both cognitive patterns and group opinions, values, and norms.

The level of validation or support required by an individual is, of course, variable and is related to (1) the significance of the behavior to past cognitions and (2) the relevance and centrality of the behavior to membership-reference groups.

Assumption 2 provides the necessary motive power for the individual to either (1) reorganize his cognitive set or (2) orient himself to new reference groups if a discrepancy occurs between his action and sources of validation.

These assumptions and their implications permit the development of a four-cell paradigm which locates the position of an individual for any given point in time.[9]

Relationship of Behavior to Group Opinions, Norms, and Values	Relationship of Behavior to Cognitive Set	
	Consonant	Dissonant
Congruent . .	Consonant congruent (situation a)	Dissonant-congruent (situation b)
Non congruent	Consonant non congruent (situation c)	Dissonant non-congruent (situation d)

An examination of the paradigm reveals that it is constructed on the basis of relationships which exist between the individual's behavior and (1) his past cognitions and (2) reference-group opinions, values,

[7] A summary of structural variables can be found in R. E. Lane and D. O. Sears, *Public Opinion* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964), pp. 33 ff.

[8] These assumptions are drawn from the literature and are given extended treatment in the theories of Leon Festinger, *A Theory of Cognitive Dissonance* (Evanston, Ill.: Row, Peterson & Co., 1957); Fritz Heider, *The Psychology of Interpersonal Relations* (New York: John Wiley & Sons, 1958); and C. E. Osgood and P. H. Tannebaum, "The Principle of Congruity in the Prediction of Attitude Change," *Psychological Review*, LXII (1955), 42-55.

[9] In this paper we are not concerned with the dynamics of opinion change but only the individual's ability to assess public opinion at a given time. Only in situation *a*, however, is the individual not under some pressure (either psychological, social, or both) to change his position.

and norms. Where an individual's behavior finds support in his cognitions, the relationship is one of consonance; where it does not, it is one of dissonance. Where an individual's behavior finds support in group opinions, values, or norms, the relationship is one of congruence; where it does not, it is one of non-congruence.

A hypothetical illustration of these events is provided below.

Type	
Consonant-congruent (situation *a*)	The discriminatory opinion of a prejudiced southern white is consonant with his cognitive set and congruent with southern public opinion.
Dissonant-congruent (situation *b*)	The discriminatory opinion of a non-prejudiced southern white is dissonant with his cognitive set but congruent with southern public opinion.
Consonant–non-congruent (situation *c*)	The liberal opinion of a non-prejudiced southern white is consonant with his cognitive set but non-congruent with southern public opinion.
Dissonant–non-congruent (situation *d*)	The liberal opinion of a prejudiced southern white is dissonant with his cognitions and non-congruent with southern public opinion.

According to the assumptions on which this paradigm has been constructed, the consonant-congruent individual is the only person who finds it possible to validate his opinion on both dimensions. Individuals who find themselves in any of the three remaining situations—(*b*, *c*, and *d*) dissonant-congruent, consonant–non-congruent, or dissonant–non-congruent—are in either a partial or total state of imbalance—that is, they lack support either from cognitive set or public opinion or from both.[10]

Since we have posited that the individual finds the state of imbalance psychologically and socially uncomfortable, we infer that the individual will attempt to reduce the imbalance in predictable ways. As we are primarily interested in the relationship between individual opinion and public opinion, we analyze the situation of an individual who holds an opinion which may or may not be in balance with his cognitive set and public opinion (group values and norms).

In situation *a* (consonant-congruent), the individual's opinion can be validated by reference to either his cognitive set or public opinion. Since his opinion is consonant with his cognitive set, he experiences no psychological strain, and since his opinion is congruent with public opinion, whatever interaction he has with others who share similar views only reinforces his own position. Unless his position in the social system requires an assessment of the public position, there exists little or no need for him to actively ascertain and assess the position of others.[11] In terms of psychological utility, the individual is under no pressure to determine accurately the distribution of public opinion, since such knowledge is of little reinforcement value.

In situation *b* (dissonant-congruent), the individual's opinion can be validated only along one dimension: its relationship to public opinion. As the individual has offered an opinion contrary to his cognitive set, he experiences discomfort. This discomfort or dissonance, however, can be reduced, if not eliminated, by seeking the support of others. Since we have posited a relationship of congruency, the individual finds it rewarding to assess the opinion

[10] Here we are considering only the relationship between personal opinion and public opinion Although the individual may lack support from the public, he may find support in other membership-reference groups.

[11] Clearly some individuals find it more necessary to be informed of group public opinion than others. See K. Chowdhry and T. M. Newcomb, "The Relative Abilities of Leaders and Non-Leaders to Estimate Opinions of Their Own Groups," *Journal of Abnormal and Social Psychology*, XLVII (1952), 51–57.

of the public. In fact, the more aware he becomes of the congruence between his opinion and the opinions of others, the greater the validation or support he obtains for his own opinion. Other conditions being equal, therefore, individuals in a dissonant-congruent relationship have greater reason to be more aware of the distribution of public opinion than persons in a consonant-congruent relationship.

Persons in situations *c* and *d* differ markedly in their relationships from persons in situations *a* and *b*. In situation *c*, the individual's opinion and cognitive set are consonant, but he is non-congruent with public opinion. The more visible his deviance, the greater the negative sanctions he experiences from the public. Not only are negative sanctions increased with the visible display of deviance through interaction, but the greater extent to which the public serves as a reference group, the greater his psychological discomfort. His discomfort is reduced by validating his opinion with his cognitive set and by remaining ignorant of public opinion and avoiding interaction on this issue. Whatever motivation the individual originally possessed for determining public opinion is reduced through contact with the public. In a sense, awareness of public opinion is psychologically and socially punishing. Consonant–non-congruent individuals are therefore less likely to be informed concerning public opinion than consonant-congruents who in turn are less aware than dissonant-congruents.

Individuals who find themselves in situation *d* (dissonant–non-congruent) are confronted with a double dilemma. Validation for their opinions can be found neither through reference to their cognitive set nor through reference to public opinion. Persons in this situation are likely to be unstable in their opinions, cognitive sets, or reference groups. Precisely which relationship will change and under what conditions is subject to a variety of variables, and their examination is beyond the scope of this paper. For reasons developed above, however, the dissonant–non-congruent is unlikely to seek out public opinion, and his assessment of its distribution will be misinformed or distorted. As he is also confronted with a discrepancy between opinion and cognitive set, we can predict instability and a general unwillingness to consciously focus on the issue being discussed by the public.

The general hypothesis generated from the theory concerning the rank order of prediction is as follows: Assuming structural equivalence of social position and access to communication, dissonant-congruents should be the best estimators of public opinion, while dissonant–non-congruents should be the least informed. The rank-order prediction for persons in situations *a* and *c* is less clear since they are intermediate types, but the theory suggests that consonant-congruents should be better predictors of public opinion than consonant–non-congruents, since information acquired by the latter is punitive and serves only to increase discomfort. The rank order for prediction of public opinion is hypothesized to be as follows: best predictors: (1) dissonant-congruents, (2) consonant-congruents, (3) consonant–non-congruents; poorest predictors: (4) dissonant–non-congruents. Having developed the theory, the remainder of this paper is devoted to the presentation of empirical data testing the model.

II. AN EMPIRICAL TEST

In order to test the rank-order predictions generated by the theory, it was necessary to collect data on one dependent and two independent variables. The dependent variable was the accuracy of an individual's estimate of public opinion, while the independent variables were the individual's cognitive set and his opinion on a given issue.

SAMPLE AND METHODOLOGY

To collect the necessary data, a questionnaire was constructed and administered to a stratified random sample of two hundred

and norms. Where an individual's behavior finds support in his cognitions, the relationship is one of consonance; where it does not, it is one of dissonance. Where an individual's behavior finds support in group opinions, values, or norms, the relationship is one of congruence; where it does not, it is one of non-congruence.

A hypothetical illustration of these events is provided below.

Type	
Consonant-congruent (situation *a*)	The discriminatory opinion of a prejudiced southern white is consonant with his cognitive set and congruent with southern public opinion.
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Dissonant–non-congruent (situation *d*)	The liberal opinion of a prejudiced southern white is dissonant with his cognitions and non-congruent with southern public opinion.

According to the assumptions on which this paradigm has been constructed, the consonant-congruent individual is the only person who finds it possible to validate his opinion on both dimensions. Individuals who find themselves in any of the three remaining situations—(*b*, *c*, and *d*) dissonant-congruent, consonant–non-congruent, or dissonant–non-congruent—are in either a partial or total state of imbalance—that is, they lack support either from cognitive set or public opinion or from both.[10]

Since we have posited that the individual finds the state of imbalance psychologically and socially uncomfortable, we infer that the individual will attempt to reduce the imbalance in predictable ways. As we are primarily interested in the relationship between individual opinion and public opinion, we analyze the situation of an individual who holds an opinion which may or may not be in balance with his cognitive set and public opinion (group values and norms).

In situation *a* (consonant-congruent), the individual's opinion can be validated by reference to either his cognitive set or public opinion. Since his opinion is consonant with his cognitive set, he experiences no psychological strain, and since his opinion is congruent with public opinion, whatever interaction he has with others who share similar views only reinforces his own position. Unless his position in the social system requires an assessment of the public position, there exists little or no need for him to actively ascertain and assess the position of others.[11] In terms of psychological utility, the individual is under no pressure to determine accurately the distribution of public opinion, since such knowledge is of little reinforcement value.

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of the public. In fact, the more aware he becomes of the congruence between his opinion and the opinions of others, the greater the validation or support he obtains for his own opinion. Other conditions being equal, therefore, individuals in a dissonant-congruent relationship have greater reason to be more aware of the distribution of public opinion than persons in a consonant-congruent relationship.

Persons in situations *c* and *d* differ markedly in their relationships from persons in situations *a* and *b*. In situation *c*, the individual's opinion and cognitive set are consonant, but he is non-congruent with public opinion. The more visible his deviance, the greater the negative sanctions he experiences from the public. Not only are negative sanctions increased with the visible display of deviance through interaction, but the greater extent to which the public serves as a reference group, the greater his psychological discomfort. His discomfort is reduced by validating his opinion with his cognitive set and by remaining ignorant of public opinion and avoiding interaction on this issue. Whatever motivation the individual originally possessed for determining public opinion is reduced through contact with the public. In a sense, awareness of public opinion is psychologically and socially punishing. Consonant–non-congruent individuals are therefore less likely to be informed concerning public opinion than consonant-congruents who in turn are less aware than dissonant-congruents.

Individuals who find themselves in situation *d* (dissonant–non-congruent) are confronted with a double dilemma. Validation for their opinions can be found neither through reference to their cognitive set nor through reference to public opinion. Persons in this situation are likely to be unstable in their opinions, cognitive sets, or reference groups. Precisely which relationship will change and under what conditions is subject to a variety of variables, and their examination is beyond the scope of this paper. For reasons developed above, however, the dissonant–non-congruent is unlikely to seek out public opinion, and his assessment of its distribution will be misinformed or distorted. As he is also confronted with a discrepancy between opinion and cognitive set, we can predict instability and a general unwillingness to consciously focus on the issue being discussed by the public.

The general hypothesis generated from the theory concerning the rank order of prediction is as follows: Assuming structural equivalence of social position and access to communication, dissonant-congruents should be the best estimators of public opinion, while dissonant–non-congruents should be the least informed. The rank-order prediction for persons in situations *a* and *c* is less clear since they are intermediate types, but the theory suggests that consonant-congruents should be better predictors of public opinion than consonant–non-congruents, since information acquired by the latter is punitive and serves only to increase discomfort. The rank order for prediction of public opinion is hypothesized to be as follows: best predictors: (1) dissonant-congruents, (2) consonant-congruents, (3) consonant–non-congruents; poorest predictors: (4) dissonant–non-congruents. Having developed the theory, the remainder of this paper is devoted to the presentation of empirical data testing the model.

II. AN EMPIRICAL TEST

In order to test the rank-order predictions generated by the theory, it was necessary to collect data on one dependent and two independent variables. The dependent variable was the accuracy of an individual's estimate of public opinion, while the independent variables were the individual's cognitive set and his opinion on a given issue.

SAMPLE AND METHODOLOGY

To collect the necessary data, a questionnaire was constructed and administered to a stratified random sample of two hundred

undergraduates at a midwestern coeducational liberal-arts college in the fall of 1965. The variables under consideration were operationally defined and measured in the following ways.

Cognitive set.—Prior to the collection of data, a series of opinion items was submitted to a panel of judges composed of students and faculty ($N = 80$). From this series, the panel selected ten items which in their judgment formed a cognitive pattern, that is, were internally consistent along a liberal-conservative dimension. As a reliability check on adequacy and consistency, the items were pretested on seventy-five students. Respondents in the pretest were scored and Likert-scaled according to their responses on the items.[12] Using the upper and lower quartiles as test aggregates, the items were deemed adequate as an index to liberal-conservative cognitive set, since no item possessed a discriminative power of less than .90.

In similar manner, the two hundred respondents in the final sample were scored and Likert-scaled according to their responses to the test items. Respondents in the upper quartile of the Likert scale were classified as possessing a liberal cognitive set and respondents in the lower quartile as possessing a conservative cognitive set.

Individual opinion.—Personal opinion for each respondent was measured by his response to the ten opinion items. Respondents were asked to indicate the strength of their opinions for each item on a four-point scale ranging from strong endorsement to strong opposition. Endorsement or non-endorsement of the item measured his opinion on the issue.

Public opinion.—The distribution of public opinion for each issue considered by the sample was computed by summing individual opinions on the items. Using the random sample ($N = 200$) as a base, the parameters of public opinions in the college community ($N = 1482$) were estimated. By treating each item as a social issue around which publics were forming, the distribution of ten public opinions was ascertained.

Table 1 presents the items utilized in measuring cognitive set,[13] individual opinion, and the strength and direction of public opinion.

Public-opinion estimates.—For each item on which a respondent recorded his own opinion, he was also asked to estimate the percentage of students in the college community who would basically agree with the stated opinion. In this way it was possible to measure the strength and direction of public opinion of ten issues as they were perceived by the respondents in the sample.

ANALYSIS AND FINDINGS

The first step in analysis consisted of classifying individuals according to the relationship between personal opinion and public opinion. The relationship was congruent when an individual's views were in the same direction on a given issue as the majorty of the population. The relationship was non-congruent when an individual's views were in the opposite direction from the majority of the population.

This procedure entailed an important assumption. We assumed an empirical *equivalence* between the notion of reference group and public. Our decision to classify individuals as congruent or non-congruent to the public as a reference group follows from that assumption. From a theoretical perspective, the concepts "reference group" and "public" are neither conterminous nor mutually exclusive. Standard usage in sociological theory indicates that reference groups are real or imaginary collectivities utilized by the individual for self-evaluation and goal direction,[14] while a public is viewed

[12] W. J. Goode and P. K. Hatt, *Methods in Social Research* (New York: McGraw-Hill Book Co., 1952), pp. 270 ff.

[13] Endorsement of items *A, D, E, H,* and *I* and opposition to items *B, C, F, G,* and *J* measured the conservative cognitive set, while the reverse pattern constituted the liberal cognitive set.

[14] See, e.g., Tamotsu Shibutani, *Society and Personality: An Interactionist Approach to Social Psychology* (Englewood Cliffs, N.J.: Prentice Hall, Inc., 1961), pp. 249 ff.

as a large number of persons interacting on a socially open issue through initiating and reacting to communications and opinions.[15] It follows that when public opinion is formed, individuals *may* utilize the public as a reference group. The empirical question is whether a particular public is serving as a reference group for the individual.

We have taken the position that, for our sample of college students, fellow student peers serve as both the public and the reference group. The utility of this assumption has been demonstrated in several articles in order to explain empirical findings.[16] The basis for assuming an identity between reference group and public in our own study stems from the characteristics of the institution and population from which the sample was drawn.[17]

From the theory developed in Part I of this paper, we hypothesized that congruents are more accurate estimators of the direction of public opinion than non-congruents. Table 2 presents the resulting distribution.

[15] Cf. Arnold Rose, "Public Opinion Research Techniques Suggested by Sociological Theory," *Theory and Method in Social Sciences* (Minneapolis: University of Minnesota Press, 1954), pp 210-19.

[16] See, e g , Theodore M. Newcomb, *Personality and Social Change* (New York: Dryden Press, 1943); Peter Blau, "Orientation of Students toward International Relations," *American Journal of Sociology*, LIX (1953), 205-14; and James A. Davis, "The Campus as a Frog Pond," *American Journal of Sociology*, LXXII (1966), 17-31.

[17] The sample was drawn from a small, liberal-arts, residential institution which restricts the opportunity for students to interact with others and therefore to form significant membership-reference groups beyond the college community. The social-class and ethnic homogeneity of the student body further constrains the development of multiple student subcultures of the type available at larger, more heterogeneous universities. In a study of a similar type, Blau remarks on the social pressure of student peers: "These findings suggest that it is not primarily the logical inconsistency of a student's political ideology but rather the influence of his or her associates which induces a strain towards consistency" (*op. cit*, p. 210).

An examination of Table 2 reveals that congruents in general were more accurately informed than non-congruents concerning the distribution of public opinion. On the basis of interaction theory, congruents

TABLE 1

THE DISTRIBUTION OF PUBLIC OPINION ON TEN SOCIAL ISSUES IN THE COLLEGE COMMUNITY ($N = 200$)

Direction of Majority Opinion	Strength of Majority Opinion (Per Cent)
Statements majority agreed with:	
A. The United States has a definite responsibility to the free world to prevent the spread of communism . .	36
B. Red China must be admitted to the United Nations if we are to move toward establishing a lasting world peace .	70
C. The President of the United States should use the power of his office to influence the price policies of our major industries whenever necessary .	53
D. The Medicare program would be a better program if it were not compulsory for all citizens	59
Statements majority disagreed with:	
E. Even if the majority of the members of the United Nations favor the admission of Red China, the United States should continue to oppose Red China's admission . .	74
F. The seat on the United Nations Security Council now held by Nationalist China should be given to Red China	74
G. Labor unions have a right to require new employees to join the local union	79
H. Management should be allowed to settle its differences with labor without government intervention	57
I. Medicare represents just one more step toward a socialized society where a government makes decisions which properly belong to the individual .	54
J. The Medicare bill was a significant step toward meeting the needs of American citizens without encroaching on the sphere of individual freedom .	53

should be more aware of public opinion than non-congruents. Theoretically, non-congruents not only fail to receive support or approval for their own opinions but, since their actions are non-rewarding to others in the public, the result should be reduced communicative interaction.[18]

At this point we invite the reader's attention to an alternate interpretation which also accounts for these findings. It could be assumed that people project their views on others (in this case the public) and that non-congruents simply have the "wrong" opinions, thus resulting in misperception of public opinion. This assumption accounts for the observed differences between congruents and non-congruents, but it does not account for the observed variations *within* each group.

Some congruents perceived public opinion inaccurately, while some non-congruents perceived public opinion accurately. In the projection interpretation, these would have to be regarded as deviant cases. The theory we offer provides an explanation for the differences between congruents *and* non-congruents *and* for the differences within each group. Additional support for the dissonant-congruent model was obtained by correlating the proportion of non-congruents correctly perceiving public opinion with the size of the majority in the public. We hypothesized that if interaction was a significant variable, the proportion of non-congruents—those not agreeing with the majority—who failed to accurately perceive public opinion should decrease as the size of the majority increased. If projection accounts for the misperception of non-congruents, there should be little change within the category of non-congruents as a function of the strength of majority opinion. The latter interpretation did not find support, as $r = .74$ ($P < .01$). Thus the size of the majority constituting public opinion significantly influenced the ability of non-congruents to correctly identify

TABLE 2

PROPORTION ACCURATELY PERCEIVING PUBLIC OPINION AMONG CONGRUENTS AND NON-CONGRUENTS

Direction of Majority Opinion	Congruents and Non-Congruents Accurately Perceiving the Direction of Majority Opinion*				χ^2	P
	Congruents		Non-Congruents			
	Per Cent	N	Per Cent	N		
Statements majority agreed with:						
A .	96	160	79	19	9 64	.01
B	63	129	64	53	0 03	90
C	55	88	42	92	2 66	20
D	74	106	49	74	9 22	01
Statements majority disagreed with:						
E . . .	61	136	55	47	47	50
F	80	132	60	50	7 92	01
G	65	141	40	35	7 46	01
H	47	106	27	71	7 45	.01
I	61	100	36	81	11 37	001
J.	53	92	38	87	2 60	.20

* Sample size varies, since not all respondents answered each item.

[18] S. Schachter makes this point very clear in his article "Deviation, Rejection and Communication," *Journal of Abnormal and Social Psychology*, XLVI (1951), 190–207.

public opinion.[19] In view of the supporting data and in the absence of a crucial test of the two theories, our interpretation seems to have greater explanatory power.

The next step was to determine whether introduction of the relationship between individual opinion and cognitive set had any impact on public-opinion awareness. This was accomplished by comparing the individual's opinion with the opinion predicted on the basis of his cognitive set. A quartiles of the liberal-conservative scale. We then compared the individual's opinion on a given item with his *predicted* opinion on the basis of his scale score and operationally defined the relationship as one of consonance or dissonance.

If the opinion was in the same direction as his cognitive set predicted, the relationship was defined as consonant; if the opinion was in the reverse direction, the relationship was defined as dissonant. This respondent's cognitive set had previously been determined by the extent of his endorsement or non-endorsement of a series of liberal-conservative items. To strengthen the analysis, we selected only respondents classified as having a highly liberal or conservative cognitive set—the upper and lower

TABLE 3

PROPORTION ACCURATELY PERCEIVING PUBLIC OPINION AMONG DISSONANT-CONGRUENTS, CONSONANT-CONGRUENTS, CONSONANT-NON-CONGRUENTS, AND DISSONANT-NON-CONGRUENTS*

ITEM	DISSONANT-CONGRUENTS I		CONSONANT-CONGRUENTS II		CONSONANT-NON-CONGRUENTS III		DISSONANT-NON-CONGRUENTS IV	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
A	98	50	88	43	91	11	25	4
B	81	16	79	63	74	31		.
C	83	23	59	59	68	28	33	3
D	86	29	77	44	69	35	33	3
E	50	44	73	41		2	52	21
F	45	47	29	24	57	23	23	13
G	43	35	39	33	61	28	36	14
H	75	54	64	58	38	40	25	4
I	67	39	76	21	50	44	38	8
J	46	11	56	43	37	51	25	4

* The upper and lower quartiles of the liberal and conservative scales are used in this analysis. Group size varies, since not all respondents answered each item.

resulted in the classification of individuals into four role situations: consonant-congruents, dissonant-congruents, consonant–non-congruents, and dissonant–non-congruents. The percentage of individuals in each category correctly predicting the distribution of public opinion for each issue was then determined. These data are presented in Table 3.

Formally the hypothesis read: The rank-order prediction of public opinion would descend from dissonant-congruents to consonant-congruents, to consonant–non-congruents, to dissonant–non-congruents. The data were organized according to the hypothesis and cast into the form presented in Table 4.

Examination of Table 4 discloses that the

[19] M. J. Rosenberg and R. P. Abelson make this point indirectly when they suggest that another way of coping with imbalance is to "stop thinking" about the elements which have fallen into an imbalanced configuration. To "stop thinking" about the imbalance requires at a minimum avoiding communicative interaction about the discrepancy (M. J. Rosenberg, C. I. Hovland, W. J. McGuire, R. P. Abelson, and J. W. Brehm, *Attitude, Organization and Change: An Analysis of Consistency among Attitude Components* [New Haven, Conn.: Yale University Press, 1960]).

hypothesis was upheld. Of the ten items tested, two (*D* and *H*) resulted in perfect rank ordering of the four dissonant-congruent types, while four others (*A*, *C*, *I*, and *J*) contained only one error. If these are defined as "successful" outcomes, then the probability of the observed ranked orderings is less than .001. It should be noted that dissonant-congruents always predict more accurately than dissonant–non-congruents but that the rank order for consonant-congruents and consonant–non-congruents is less stable.

TABLE 4

RANK ORDER OF DISSONANT-CONGRUENTS CONSONANT-CONGRUENTS, CONSONANT-NON-CONGRUENTS, AND DISSONANT-NON-CONGRUENTS CORRECTLY PERCEIVING DIRECTION OF PUBLIC OPINION*

Item	Dissonant-Congruents	Consonant-Congruents	Consonant-Non-Congruents	Dissonant-Non-Congruents
A . .	1	3	2	4
B . . .	1	2	3	.. ....
C . . .	1	3	2	4
D . .	1	2	3	4
E . . .	3	1	4	2
F. . . .	2	3	1	4
G. . . .	2	3	1	4
H. . . .	1	2	3	4
I . . .	2	1	3	4
J . . .	2	1	3	4
Total	16	21	25	34

* *Z* score for number of successful rank orderings = 3 69; $P < .001$.

III. SUMMARY AND CONCLUSIONS

In this study we have attempted to analyze the relationship between awareness of public opinion (dependent variable) and personal opinion and cognitive set (independent variables) according to a balance model related to the work of Festinger, Heider, and Osgood.[20] In many ways it parallels the efforts of Cartwright, Davis, Newcomb,[21] and others to develop a structural model embodying social psychological postulates.

By comparing personal opinion and cognitive set, we arrived at a structural relationship of consonance or dissonance; by comparing personal opinion and public opinion, we arrived at a structural relationship of congruence or non-congruence. Combining these relationships led to a typology of four types: dissonance-congruence, consonance-congruence, consonance–non-congruence, and dissonance–non-congruence. Given the assumption that people seek to balance these relationships, we derived a model which permitted prediction of which set of relationships led to accurate perception of public opinion.

The model was then tested on a series of public-opinion issues using a random sample of college students. Statistical analysis confirmed the hypotheses generated from the model. Although social position in the communication network was relatively uncontrolled, the theory permits these variables to enter into analysis by linking social psychological theory to the relationships between an individual and others.

The theory is an improvement on those models which explain awareness of group opinion solely on structural position. The latter, for example, fail to explain the differences between persons occupying a similar structural position, that is, why some leaders are more aware of group opinion than other leaders or why some non-leaders are better predictors than leaders.[22] In these instances it would seem necessary to introduce variables which account for the individual's failure to exploit his structural position or for his distorted perception of public opinion. It is toward the solution of this type of problem that our theory appears to offer promise.

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[20] Festinger, *op. cit.*; Heider, *op. cit.*; Osgood and Tannebaum, *op. cit.*

[21] Dorwin Cartwright and Frank Harary, "Structural Balance: A Generalization of Heider's Theory," *Psychological Review*, LXIII (1956), 277–93; James Davis, "Structural Balance, Mechanical Solidarity, and Interpersonal Relations," *American Journal of Sociology*, LXVIII (1963), 444–62; and Theodore Newcomb, "An Approach to the Study of Communicative Acts," *Psychological Review*, LX (1953), 393–404.

[22] See, e.g., Chowdhry and Newcomb, *op. cit.*

Prejudice and Urban Social Participation[1]

Richard F. Curtis, Dianne M. Timbers, and Elton F. Jackson

ABSTRACT

Three aspects of social participation were related to prejudice: amount of contact (measured by club membership; presence of club friends, and frequency of contact with relatives, friends, neighbors, and work associates), range of contacts (the number of different groups in which the respondent participates), and barriers in communication (measured by presence of topics which are forbidden in conversation with relatives, friends, neighbors, and work associates). The relationships were investigated in a white male sample controlling for status, age, religion, and ethnicity. High participation in primary structures had no effect upon prejudice, while participation in secondary structures was associated with a decrease in prejudice. Decrease in prejudice was greatest where primary relationships developed in a secondary structure, for example, where friends were made in voluntary associations. A wide range of contacts was negatively related to prejudice. The presence of communication barriers between neighbors was positively related to prejudice.

This paper investigates the hypothesis that prejudice, defined as unfavorable attitudes toward Negroes or other ethnic groups, may be accounted for in part by the extent and nature of social participation.

The distribution of prejudice in a community is strongly affected by social structure, but in addition, individuals may respond differently to the same social structure. Such diversities of response especially characterize the urban milieu, with its religious and ethnic mixture and its complex structuring of primary and secondary social interaction. To help explain how a person's feelings about outgroups depart somewhat from those feelings which could be expected simply on the basis of his position in the urban structure, we turn to the study of the amount of one's participation in that structure, the primary or secondary character of his participation, and the intimacy of his primary relationships.

The causal relationship linking prejudice to social participation is clearly more complex than could be represented with the data to be reported below. By removing variation in prejudice attributable to other factors, however, we hope to show empirical relationships pointing toward some causal relation, however indirect or involved. Specifically, one line of causal theory deals with norms learned in a social structure and with the reward or deprivation implicit in high or low social status. Thus our problem includes stating the social and regional context clearly enough to indicate what norms are dominant, and performing statistical controls for social status.

APPROACHES TO THE STUDY OF PREJUDICE

I. THEORETICAL APPROACHES

Although social participation has not been suggested as a major factor in prejudice, both of the general orientations to sources of prejudice described by Allport suggest an interest in amount and type of

[1] Version of a paper delivered at the 1967 meeting of the Pacific Sociological Association. Data collection for this project was supported by Public Health Service grant MH 08157-01. Further analysis was supported by National Science Foundation institutional grant GU-1163 to the University of Arizona. Computations reported here were carried out at the Numerical Analysis Laboratory of the University of Arizona. We are indebted to Mrs. Barbara Lettes for research assistance and to Morris Janowitz, J. Milton Yinger, and Michael Schwartz for their comments on the manuscript.

social interaction.[2] The *conformity model* of the nature of prejudice has used such environmental factors as region of socialization, amount of contact with the minority group, or class membership to explain prejudice. The *personality-function model* holds that prejudice is a functional mechanism operating to relieve anxiety and guilt feelings. Persons who cannot accept their own aggressive feelings may project them onto outgroup members, just as those who experience great deprivation may respond to their frustration by displacing hostility onto others who are relatively powerless. Clearly these are supplementary, not opposing, views.[3]

Both approaches contribute to the "personal and social controls" formulation of Bettelheim and Janowitz.[4] In this view, social interaction is the mechanism through which both personal and social controls function. Bettelheim and Janowitz considered strains in interpersonal relationships to be one of the reasons why downwardly mobile veterans showed greater prejudice. This formulation embeds the personality-function approach firmly in a context of social interaction, in that individual variations in prejudice depend on the extent or manner in which each individual participates in his normative surroundings.

All three approaches suggest that the nature and extent of social participation should affect prejudice. Reward and deprivation in social interaction is the mechanism of socialization as well as conformity. Many sources of hostility are generated in interpersonal relations. Personal controls are initially developed, as Bettelheim and Janowitz point out, through social interaction, but they are also maintained in the context of contemporary personal relationships. Therefore, both depriving social interaction and isolation from interaction should be involved in the development of hostility not readily contained by other personality mechanisms and thus directed toward available social targets.

Finally, Borhek has hypothesized that tolerance is increased by "incongruity of experience," defined as exposure to conflicting definitions of an object from different agencies of socialization.[5] Such incongruity should be promoted by a wide *range* of formal and informal social contacts.

II. PREVIOUS STUDIES OF SOCIAL PARTICIPATION AND PREJUDICE

Studies of social participation and prejudice have been limited, for the most part, to the effects[6] of church attendance and formal group membership, which, by themselves, represent inadequate indicators of social participation. The question of intrinsic and extrinsic religiosity, the varying and conflicting views of the denominations toward minority relations, and the changes in these views over time impossibly complicate the use of church attendance for present purposes.

The data on club membership have been interpreted as indicating little or no independent effect upon prejudice aside from that found spuriously because of the relation of education to organization member-

[2] Gordon W. Allport, *The Nature of Prejudice* (Garden City, N.Y.: Doubleday Anchor Books, 1958), pp. 271–72.

[3] The models are not, moreover, exhaustive. Personal or group economic interests, and social power, for example, provide alternative bases for prejudice models (see George Simpson and J. Milton Yinger, *Racial and Cultural Minorities* [3d ed.; New York: Harper & Row, 1965], pp. 80–108).

[4] Bruno Bettelheim and Morris Janowitz, *Social Change and Prejudice* (New York: Free Press, 1964), p. 25. See also Morris Janowitz, "Some Consequences of Social Mobility," *Transactions of the Third World Congress of Sociology* (London: International Sociological Association, 1956), III, 191–201.

[5] J. T. Borhek, "A Theory of Incongruent Experience," *Pacific Sociological Review*, VIII (Fall, 1965), 89–95.

[6] We shall use the term "effect" in a statistical sense (meaning variation in a dependent variable which might be accounted for by one or more specified independent variables), which is not intended necessarily to imply causation or proof thereof.

ship.[7] Certainly education accounts for much of the "effect," but the published data seem to us to indicate a weak but real association.

Aside from the voluminous literature on the effects of interethnic contact in reducing prejudice,[8] informal social participation per se has received little attention. However, the study by Simpson found that those who had no group of close friends with whom they visited frequently were more prejudiced than those with friends.[9]

Empirical relationships between social participation and different, but related, dependent variables can only be regarded as suggestive. Stewart and Hoult, for example, report inverse associations between authoritarianism and the number of social roles subjects had mastered or were able to use.[10] Breed found lower levels of organizational activity available where resistance to desegregation was highest.[11] Yet findings of this sort cannot be taken as *evidence* of a direct link between social participation and hostile ethnic attitudes.

THE NEW HAVEN STUDY

The data reported below represent a pilot study of ninety-six white, male, employed family heads between the ages of twenty-eight and sixty-nine who were living in the central city of New Haven, Connecticut, in the summer of 1964. In order to ensure enough men of very high and very low statuses for analysis, the sample was stratified by occupation. In effect, it consists of eight random samples drawn from the New Haven City Directory, each sample representing an interval from Duncan's Socioeconomic Index of Occupations.[12]

Since the ninety-six men interviewed comprise a sample disproportionately stratified by occupation, the findings reported cannot be said to be representative of the city of New Haven. In order to discover the relationships which might have been found in a sample with the actual New Haven occupational distribution, we duplicated under-represented cases to construct an "expanded sample" ($N = 455$) such that the proportion of cases in each interval of Duncan's Socioeconomic Index was the same as in New Haven. Each relationship reported below was investigated within both the actual and the expanded samples. For the most part, the two samples yielded essentially the same results; exceptions are reported below.

At the time of the study, the movement of a few Negroes into white neighborhoods in the suburban towns surrounding New Haven produced occasional bright, if short-lived, flares of anti-Negro emotional expression in public, semiprivate, and private. Within New Haven itself, however, rather substantial residential integration had occurred during the previous ten years. Although there were two locally famous Negro ghettos, only a few areas of the city would be termed "lily-white." Sixty-five per cent of our respondents said that there were Negroes living in the neighborhood, and an additional 10 per cent reported Negroes living nearby.

Judging from the newspapers, local tele-

[7] Robin M. Williams, Jr., *Strangers Next Door* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964), p. 62; Donald L. Noel and Alphonso Pinkney, "Correlates of Prejudice: Some Racial Differences and Similarities," *American Journal of Sociology*, LXIX (May, 1964), 609-22; Richard L. Simpson, "Negro-Jewish Prejudice: Authoritarianism and Some Variables as Correlates," *Social Problems*, VII (Fall, 1959), 138-46.

[8] For a review, see D. M. Wilner, Rosabelle P. Walkley, and S. W. Cook, *Human Relations in Interracial Housing: A Study of the Contact Hypothesis* (Minneapolis: University of Minnesota Press, 1955).

[9] Simpson, *op. cit.*, p. 144.

[10] Don Stewart and Thomas Hoult, "A Social-Psychological Theory of the Authoritarian Personality," *American Journal of Sociology*, LXV (November, 1959), 274-79.

[11] Warren Breed, "Group Structure and Resistance to Desegregation in the Deep South," *Social Problems*, X (Summer, 1962), 84-94.

[12] See Albert J. Reiss, Jr., *Occupations and Social Status* (New York: Free Press, 1961), esp. chaps. vi and vii by Otis D. Duncan, and pp. 263 ff.

vision news programs, and conversations with barbers, shopkeepers, waiters and neighbors, one would have concluded that in the summer of 1964 New Haven was a seething cauldron of imminent racial violence. School redistricting was apparently a fighting issue, with strong feelings and veiled threats being loudly expressed in and outside of hearings at schools. There was enough public furor, in short, to indicate a ground swell of anti-integration feeling in the community to many casual observers.

In the context of this apparent public excitement, the picture of community opinion that emerged from our survey was one of remarkable peace and contentment. Less than one-third of our sample had anything unfavorable at all to say about Negroes. Among our respondents who reported Negroes living in the neighborhood, only a tenth mentioned any objection.

I. THE MEASUREMENT OF PREJUDICE

Prejudice was measured by a series of open-end questions concerning the residential segregation of Negroes or other ethnic groups in New Haven. Respondents were asked if Negroes or other groups lived pretty much in their own areas and, if so, why. Next they were asked how they felt about the integrated or segregated situation —whether it was right or not. Finally, they were asked if members of such groups lived in their neighborhood and, if so, how they felt about it. If no Negroes or members of other ethnic groups lived in his area, a respondent was asked how he would feel if some moved in. Housing being a particularly cogent issue in race relations, we expected it to elicit any prejudiced viewpoints the respondent might have had.

On the basis of these data, the respondents were scored as prejudiced or not prejudiced.[13] The "prejudiced" category ($N = 30$) includes respondents in favor of de facto residential segregation (or opposed to integration) and/or expressing unfavorable attitudes regarding Negroes or other minority groups (Jews, Italians, and Puerto Ricans were named most frequently). These unfavorable attitudes could not be considered violent hostility. The following illustrate the strongest statements:

> Send them—what do you call them—Spics? [Puerto Ricans] back to their own country. They don't belong here. We don't go down and live in their country. The more foreigners you get, the worse this country is going to get Our parents were originally foreigners, but I can't see bringing in any more foreigners.
>
> [How do you feel about that?] I am not too happy about it. When a Negro gets into an apartment house, it immediately knocks the value out of the property. Certain tenements on ________ Avenue which were once well-kept homes are now over-run with Negroes and Puerto Ricans, and the Puerto Ricans are the most offensive of the two They used to be kept up, but now everything is gone to Hell—crowds of them sitting on the front porch—filth and everything else.

Yet even this man could scarcely be taken to represent diehard apartheid ideology. When asked how he would feel if Negroes moved into his neighborhood, he said:

> . . . wouldn't bother me. I don't like to see hundreds move in. It would end up like those places I spoke of before.

Another respondent said,

> They try to get in anywhere they can. They want to integrate with the whites. The colored people want what we have worked generations to get; . . . they don't want to *work* for it. They are all on welfare, and the whites can't get it.

He could not understand why "they want to be where they are not wanted" or why they do not "stick with each other like the Italians did." He felt they should live in their own areas and have their own shops and businesses and bars.

[13] Three coders were employed in making judgments. To measure coding reliability, we counted the number of times one coder's judgments of an individual's responses yielded a score of 0—unprejudiced—while the other coder's judgments placed the respondent in the 1—prejudiced—category. Among the twenty-three cases check-coded, there were two disagreements.

Some of those coded "prejudiced" contributed considerably milder remarks:

To tell you the truth, they drove me out. Not that I dislike them—it's the rumpus they make. There are a lot of nice Negroes. [Do you think things should be that way?] Can't do anything about it. They are human beings and can live where they want to as long as they stay in their place [How would you feel if a Negro tried to move into this neighborhood?] Wouldn't make any difference to me.

Those in the non-prejudiced category were in favor of integration (or opposed to segregation) *and* added no unfavorable comments regarding Negroes or others.

II THE MEASUREMENT OF SOCIAL PARTICIPATION

The intent of our questions on social participation was to provide at least a rough measure of the frequency with which interaction of various sorts occurred, but more importantly to represent the full spectrum of relationships, from primary to secondary, existing in the urban community.

Respondents were asked how often they visited with (1) relatives living in the New Haven area, (2) people they work with, (3) neighbors, and (4) other friends. Each respondent for whom information was available was placed in a high-, medium-, or low-contact category for each of these four types of relationship.[14] Respondents were also asked to list various organizations to which they belonged: the number of organizations (including unions but excluding churches) was the datum used. Since we were concerned with the nature and development of primary relationships under urban conditions, we asked (for each organization listed) whether they had become friends with people they met in the organization to the extent of mutual visiting.[15]

These are measures of the *extent*, not the *existence*, of participation. Thus men who reported having no relatives, work associates, or other friends in New Haven were excluded from the analysis of contact, and only members of voluntary associations were considered in the analysis of "club friends." No one reported having no neighbors.

In order to measure the number of different types of relationships a person experiences, we formed a "range of contact" index. The following types of contact were considered:

Contact with New Haven relatives;
Contact with relatives living elsewhere;
Contact with neighbors;
Contact with work associates;
Contact with person the respondent could turn to for help in emergency;
Contact with other friends;
Moonlighting (respondent presently holds two or more jobs);
Church attendance;
Political activity;
Number of different *types* of clubs to which respondent belongs.

Each respondent was given a point for each type of contact he reported, except for the last, where he was given half a point for each different type of club in order to keep club membership from dominating the index. The sum of points was the respondent's score for the "range of contact" index, to be broken into three categories (high: 7.5–11.5 points; medium: 6–7 points; low: 1–6.5 points).

Using survey methodology, the *nature* of primary relationships is most elusive. In an attempt to assemble some evidence on this

[14] High, medium, and low contact are defined as follows:

For relatives and other friends: *high*—once a week or more often; *medium*—a few times a month to once every month or two; *low*—a few times a year or less.

For work associates and neighbors: *high*—a few times a month or more often; *medium*—once every month or two to a few times a year; *low*—once a year or less.

[15] Cutting points for categories were as follows.

For club membership: *high*—four to eight clubs; *medium*—two or three clubs; *low*—zero or one club.

For club friends: *high*—two or more club friends; *medium*—one club friend; *low*—club membership but no club friends.

point, we asked respondents what they generally talked about when they got together with their relatives, neighbors, work associates, and other friends. After noting the list of topics, the interviewers asked, "Are there any things you feel you *can't* talk about with these people?" Of course

TABLE 1

PREJUDICE BY SOCIAL POSITION

SOCIAL POSITION VARIABLE	PERCENTAGE PREJUDICED			TOTAL *N*
	Social Position[a]			
	Low	Medium	High	
Total relationships:				
Education	50	22	10	94*
Income	40	32	10	96*
Occupation	42	38	17	96*
Ethnicity	36	26	27	96*
Age	10	27	43	95*
	Catholic	Protestant	Jewish	
Religion	34	38	24	94
	Low	Medium	High	
Relationship standardized for "Ethreled":				
Income	32	34	23	
Occupation	34	31	29	
Age	14	32	38	

* Significant at .10 level (χ^2 test).

[a] See n. 16 for a description of these categories.

this variable—presence or absence of "forbidden" topics—could indicate skills in preserving relationships through avoidance of potentially disruptive issues (such as religion or politics) as easily as it could indicate brittle interpersonal relationships. However, almost all of the topics which could not be discussed were reported by respondents to be "personal problems" of one sort or another, suggesting that there is reason to take the existence of forbidden topics as representing genuine barriers to intimacy.

III. STATISTICAL CONTROL OF CONTEXTUAL VARIABLES

In order to investigate the effect of social participation on prejudice, we must first take account of the perspectives, based on social position from which individuals participate in the social structure. We expect these rank variables defining the position of the individual in the community—education, income, occupation, age, ethnicity, and religion[16]—to have relatively major effects on prejudice in their own rights.[17] Therefore, the relationship between social participation and prejudice should be interpreted only after effects of variation in social position have been taken into account.

Social position "effects" on prejudice are presented in the upper half of Table 1. Prejudice is, in general, negatively related to education, income, occupation, and ethnicity; positively associated with age; and not significantly related to religion. The analytic problem of this paper is to examine the relationship between social participation and prejudice with these effects removed.

Controlling for these six variables involved essentially a three-step procedure. We first examined the partial relationships (e.g., the relationship between amount of contact with work associates and prejudice within each category of each social position variable). This first procedure allowed us to see if the direction of a relationship was

[16] The variables were trichotomized as follows: (*a*) education: 11 or fewer years, 12–13 years, 14–20 years; (*b*) income: below $7,000, $7,000–$11,999, $12,000 and above; (*c*) occupation: Duncan Socioeconomic Index numbers 00–29, 30–59, 60–96; (*d*) age: 28–39, 40–49, 50–69; (*e*) ethnicity: Bogardus Social Distance Scores 1.85–3.00, 1.70–1.79, 1.00–1.69 (see Emory S. Bogardus, "Racial Reactions by Regions," *Sociology and Social Research*, XLIII [March–April, 1959], 286–90, for ethnicity scores).

[17] Other variables, such as labor-force status, sex, and race were controlled through the selection of the sample. In addition, all respondents were household heads, only one reported a southern background within three generations, three were widowed, and only three had never been married.

reversed within any control category and whether there was serious interaction in the effects of the independent and control variables. However, sample size within categories of control variables was often so small as to provide only suggestive findings. Therefore, a summary statistic, presenting the relation between the independent and dependent variables with the control effect "removed," was clearly in order.

Thus our second step was to summarize this entire set of partial associations in standardized tables (not shown), which may be thought of as average partial associations (e.g., the relationship between participation and prejudice which would have obtained if each category of participation exhibited the same educational distribution). Indirect standardization was employed here for reasons of sample size.[18]

A third procedure was called for, however, because standardization (or any expression of an "average partial association") can be grossly misleading if interactions appear, that is, if the relationships between independent and dependent variables are different under different values of the control variable. In the central city of New Haven, ethnicity, religion, and education produced a particularly annoying illustration of interaction in their effects on prejudice. The sample being too small by far to investigate the interaction in detail, we constructed a new test factor (called "Ethreled" below) composed of eight categories of ethnicity-religion-education which maximized variation in percentage prejudiced between categories, and minimized variation within categories, while keeping the numbers in each category as large as possible.[19] The eight categories are theoretically meaningless, but afford a powerful control, considering the size of the sample. The percentage prejudiced in each category is as follows: (1) low-education[20] Jews, 75 per cent ($N = 4$); (2) low-education Italian Catholics, 54 per cent ($N = 26$); (3) low-education high ethnics and low-education Protestants, 43 per cent ($N = 7$); (4) all southeast European Catholics, 29 per cent ($N = 7$); (5) high-education high ethnics and high-education Protestants, 22 per cent ($N = 9$); (6) high-education Jews, 15 per cent ($N = 20$); (7) all Irish Catholics, 11 per cent ($N = 9$); and (8) high-education Italian Catholics, 9 per cent ($N = 11$).

As an illustration of the use of this test factor, we present the remaining social position variables in the lower half of Table 1. Expected proportions of prejudiced persons were calculated, for example, for low income, for medium income, and for high income, on the basis of the Ethreled distribution within each income category. The "expected" value was subtracted from the actual percentage prejudiced in each income class, and the difference was added to a standard—the percentage prejudiced in the population—so that the standardized tables might easily be compared to the actual tables. We see that the income "effect" was reduced by removing the variation "accounted for" by the Ethreled test factor, the occupation "effect" disappeared

[18] In "Test Factor Standardization as a Method of Interpretation," *Social Forces*, XLI (October, 1962), 53-61, Morris Rosenberg has recalled standardization to the attention of sociologists as a means of expressing and summarizing complicated partial associations. Yet direct standardization, as advocated by Rosenberg, is not applicable in samples this small when test factors are strongly related to independent variables because cell size rapidly approaches zero for many cells. Such problems are reduced by the use of indirect standardization (illustrated, e.g., by Duncan, in Reiss, *op cit.*, pp. 132-38). The use of indirect standardization as a control technique was discussed by Ralph H. Turner, "The Expected Case Method Applied to the Non-White Male Labor Force," *American Journal of Sociology*, LV (September, 1949), 146-56.

[19] This procedure is essentially that described by Sanford I. Labovitz, "Methods for Control with Small Sample Size," *American Sociological Review*, XXX (April, 1965), 243-48, which he called "cell ordering and combination (COAC)."

[20] Education was dichotomized as follows: *low*—11 years or less; *high*—12 years or more.

almost entirely, and the age "effect" was only slightly reduced.[21]

Each of these three methods was employed in investigating the relationship of each independent variable to prejudice. Unless stated otherwise, each of the original total relationships shown in the upper halves of Tables 2 and 3 was maintained throughout each control procedure, and no serious interaction occurred. Since Ethreled was the most powerful control variable used, we have shown the relationships standardized for this test factor in the lower halves of Tables 2 and 3.

TABLE 2

PREJUDICE BY SOCIAL PARTICIPATION

Social Participation Variables	Percentage Prejudiced — Social Participation* Low	Medium	High	Total N
Total relationships:				
Relatives	29	31	34	78
Other friends	20	22	41	84
Neighbors	47	25	21	88*
Work associates	39	9	26	83*
Club friends	52	22	19	89*
Club memberships	43	27	12	87*
Range of contacts	48	33	12	96*
Relationships standardized for "Ethreled":				
Relatives	31	33	30	
Other friends	18	27	38	
Neighbors	48	24	17	
Work associates	35	16	22	
Club friends	45	20	25	
Club memberships	35	25	24	
Range of contacts	38	34	19	

* Significant at .10 level (χ^2 test).

* See nn. 14 and 15 for a description of these categories.

IV. FINDINGS

The six indicators of amount of social participation are arrayed in the order we take as primary to secondary in Table 2.

First, it would appear that contact with relatives is unrelated to prejudice. There is evidence that contact with other friends may increase prejudice, although the findings are not statistically significant (the .10 level is employed throughout). On the other hand, contact with neighbors, work associates,[22] and friends met through voluntary associations is associated with less prejudice.

Similarly, belonging to formal voluntary associations occurs with reduced prejudice, but the magnitude of this effect is attenuated by standardization with Ethreled. However, our conclusion from examination of partial association tables by all six control variables (taken singly) is that club memberships exert a small but independent effect on prejudice.

TABLE 3

PREJUDICE BY BARRIERS TO INTIMACY

Type of Social Contact	Percentage Prejudiced — Topics Respondent Cannot Discuss: Present	Absent	Total N
Total relationships			
Relatives	40	25	66
Other friends	41	23	52
Neighbors	47	14	53*
Work associates	20	15	35
Relationships standardized for "Ethreled":			
Relatives	43	25	
Other friends	39	24	
Neighbors	41	13	
Work associates	24	10	

* Significant at .10 level (χ^2 test).

[21] Causal interpretations of such comparisons must be made with care. This does not prove that income is causally irrelevant but that some of the variation accounted for by income might also be accounted for by the test factor.

[22] The unaccountably sharp drop in prejudice for the medium contact-with-work-associates category seems partly to be a function of the ethnicity-religion-education composition of that group. Yet this curvilinearity did not entirely disappear in any partial. Furthermore, this result is complicated by the effect of age. In the medium age category the curvilinearity remains, but contact increased prejudice (high contact, 37.5 per cent; medium contact, 0 per cent; low contact, 25 per cent [$N = 27$])

These indications that prejudice may be reinforced through participation in intensely primary social groups, but reduced by primary interaction founded on secondary relationships, led us to test the proposition in another context. We hypothesized that those who met the person they talk with and visit the most in primary structures would be more prejudiced than those meeting this friend in the secondary sources of school, work, neighborhood, or church.[23] Although the finding was not significant, it was in the predicted direction, with 31 per cent of those gaining friends in primary sources being prejudiced, while 25 per cent of those who obtained their friend in secondary sources were prejudiced. In the expanded sample, the difference becomes much greater:[24] 28 per cent prejudiced with secondary source of friend to 54 per cent prejudiced with primary source (33 per cent to 54 per cent when standardized by Ethreled). Thus there is further support for the opposite effects of *primary* versus *secondary* interactional settings.

Table 2 also provides confirmation for Borhek's hypothesis that tolerance is a result of contact with the conflicting norms of different groups. Our data show that a wide range of contacts over a variety of social settings is associated with a decrease in prejudice.

Our final analysis was to test the proposition that the *quality* of interpersonal relationships affects prejudice. We expected that those who had forbidden topics in their relationships would be more prejudiced than those having more intimate, open relations. The findings presented in Table 3 are highly consistent, if statistically significant only in the case of neighbors. Respondents who felt there were topics they could not discuss with relatives, friends, neighbors, *or* work associates were more likely to be prejudiced, and this was particularly true of the relationship with neighbors.[25] In the expanded sample, these percentage differences increased substantially in the case of relatives and friends.

DISCUSSION

Variations in social participation have special significance in the urban context. The city is ethnically heterogeneous, and the feasibility of social interaction between such groups is ideally protected by universalistic norms. For the most part, the relaxation of interethnic tensions and the integration movement in the United States have been directed, not at brotherly love, but specifically at universalism. But universalistic norms are more prominent in some settings within the urban community than in others. To quote Williams, "In modern urban society, the relationships between individuals in occupational and organizational life outside of the family and of loyalty and congeniality groupings tend to emphasize norms quite different from those governing primary relationships. . . . The worlds of work and of public life tend to be marked by emphasis upon . . . universalism."[26]

Our findings indicate that, independently of education, age, and other social position variables, participation in secondary structures is associated with reduced prejudice, while interaction with relatives and friends

[23] Neighbors were included as illustrations of primary relationships by Cooley—yet we are concerned with the source of relationships in an urban environment. In the central city, most neighborhoods are groups of people held together by similar economic means and inertia. These then, are secondary-based relationships in the same sense that relationships with work associates are.

[24] No significance tests were used for the expanded sample data. The above statement and those following concerning the expanded sample are based on inspection of percentage differences in the standardized tables.

[25] One might suspect, at this point, that the race of one's neighbors might be relevant. In point of fact, (*a*) those who reported having Negro neighbors included about the same proportion of prejudiced individuals as those who did not, and (*b*) the association between prejudice and the existence of forbidden topics obtained within the group who did not have Negro neighbors as well as within the group who did.

[26] Williams, *op. cit.*, p. 357.

has no effect or may even be associated with increased prejudice.[27] However, the secondary participations most markedly associated with reduced prejudice are of a special kind; they are primary interactions between persons who are brought together by common membership in an external organization: club, neighborhood, or work firm.

Universalistic norms occur quite frequently in non-primary social structures, but the process of socialization in secondary groups lacks the emotional impact characteristic of primary socialization. Our findings suggest that the most effective influences fitting personal attitudes to universalistic social norms occur where *primary relationships* develop within a *secondary structure*. Urbanites most typically are placed in a job, a neighborhood, a school, or even a consumption category by fairly impersonal forces. But it is the set of personal relationships they develop within these secondary contexts which may have the greatest effect in reducing prejudice. Thus we found that personal contacts with neighbors, work associates, and fellow club members seemed related to reduced prejudice more strongly than our measure of secondary participation alone, the number of club memberships. Some additional support for this view was provided by our investigation of source of friend the respondent talked with and visited most frequently.

Our finding that the presence of forbidden topics tends to increase prejudice implies that isolation need not be total to be punishing. Regardless of the *amount* of contact and the socialization involved therein, the lack of intimacy signaled by the presence of conversational taboos deprives the individual both of interpersonal satisfactions and of an arena within which he can play out hostility and aggression, and thus may act to increase prejudice.

University of Arizona
and
Indiana University

[27] As far as these findings are taken as evidence, of course, they are equally supportive of the possible view that prejudice reduces social participation or that prejudice and low social participation are produced by some other variable.

COMMENTARY AND DEBATE

Some Comments on Professionalization and Stratification

I am confused by the generalizations and conclusions proposed by William A. Faunce and Donald A. Clelland (*American Journal of Sociology*, Vol. LXXII [January, 1967]). They write that the early phase of industrialization features an "increasing occupational specialization with an increasing proportion of semiskilled machine operators in the labor force," while the second phase, which they studied, features a "decreasing occupational specialization with an increasing proportion of professionals and technicians in the labor force." Why does an increase of one type of occupational group, the semiskilled, indicate an increasing occupational specialization, while an increase of another type, the professional and technician, indicates a decreasing occupational specialization?

The key concept of the division of labor requires that each worker perform a task which, in itself, is not sufficient to produce a whole work. This demands the interdependence of all workers and is the basis of organic solidarity. The above hypotheses and findings would indicate that semiskilled workers are more interdependent than professional and technical workers, and that semiskilled workers are occupationally more specialized than professionals and technicians.

The findings of earlier studies on specialization seem reasonable. As the craftsmen, who produced whole works, were replaced by the semiskilled and special purpose machinery, an increase in functional specialization would occur. It also appears reasonable that as the semiskilled are, in turn, replaced by professionals and technicians, an increase in functional specialization would occur. But this is exactly the opposite of what Faunce and Clelland claim to have found.

They claim that the degree of difference among the actual tasks performed under different job titles decreases, and interpret this as heralding a decrease in the degree of the division of labor. Two problems arise, depending on whether they are discussing the city or the chemical plant. It is difficult to tell which they refer to when stating their generalizations and conclusions.

If their conclusions are based on the city, then they admit that different residential patterns would influence the proportion of workers in the city. They specifically point out that most of the professionals live in the city, while the semiskilled live in the suburbs or outskirts. Since all the workers both in the city and outside it are highly dependent on the chemical firm, and all who work for the firm are interdependent, then to eliminate the semiskilled because of residence and to claim that the division of labor and specialization has decreased in the city is to segment the very interdependence which the division of labor creates.

If their conclusions are based on the chemical plant, then they have misinterpreted the function of professionals and technicians. One measure of the division of labor is the number of job titles present in the firm. We are told, however, that the number of job titles has not decreased (Has it increased?) Another measure is the similarity or difference among jobs. We are told that a decrease appears in the degree of difference among the actual tasks performed under different job titles. But does a similarity of tasks indicate a decrease in the division of labor?

For example, two research chemists doing the same type of analysis in different projects cannot be interchanged as easily as two semiskilled workers operating the same type of machine in different projects. Further, the relationship between the chemists and the chemical firm is more interdependent than the relationship between semiskilled workers and the firm. Faunce and Clelland found a decrease in the degree of difference among the actual tasks performed. If this is true, then the division of labor is nevertheless progressing. Emile Durkheim wrote:

> The closer functions come to one another, however, the more points of contact they have; the more, consequently, are they exposed to conflict. As in this case they satisfy similar needs by different means, they inevitably seek to curtail the other's development. . . . In other words, in proportion to the segmental character of the social constitution, each segment has its own organs, protected and kept apart from like organs by divisions separating the different segments. But as these divisions are swept away, inevitably like organs are put into contact, battling and trying to supplant one another. But no matter how this substitution is made, it cannot fail to produce advances in the course of specialization [*The Division of Labor in Society,* Book II, chap. ii].

Now it is altogether possible that Faunce and Clelland have observed the latter side of this process. The vanquished semiskilled workers have left the plant and the city to the professionals and technicians. The semiskilled must be content with only a portion of the functions they formerly filled in the plant and in the city. On the other hand, new divisions among the professionals and technicians must surely be occurring in both the plant and the city. Both the division of labor and occupationalization will increase as the process further divides the newly victorious work group.

HARRY PERLSTADT

University of Chicago

COMMENTARY AND DEBATE

A Note on the Concept of Role Distance

The purpose of this note is to examine two issues raised by Rose L. Coser's recent article on Erving Goffman's concept of role distance.[1] Specifically, her explanation of role distance by means of sociological ambivalence is not complete and can be supplemented, and in some cases even replaced, with an explanation presented in terms of the social support of the actor's self-conception. Also, her criticism of Goffman's use of the term "role" does not do justice to his formulation, and indicates a misunderstanding of his objectives.

SELF-CONCEPTION AND SOCIOLOGICAL AMBIVALENCE

Coser observes that all of Goffman's various illustrations of role distance "have one structural element in common: *sociological ambivalence* is built into the structure of statuses and roles" (p. 175). Thus, all of his many explanations can be most parsimoniously subsumed under this conception, originally developed by Merton and Barber.[2] Sociological ambivalence refers to incompatible or contradictory normative expectations of attitudes, beliefs, and behavior assigned to a status or to a set of statuses in a society or even incorporated into a single status.

Occasionally the usual mechanisms which resolve this ambivalence by separating the actor and relevant others in space and time are not sufficient, and it may have to be dealt with on the spot (p. 178). Humor and role-distance behavior are seen as two ways of doing this. However, because of difficulties encountered in linking the idea of role distance with Goffman's illustrations of it, Coser suggests that we limit it to cases "of taking distance from a *status one intends to abandon* or from a status one does not have a claim to" (p. 183). Role distance resolves sociological ambivalence in the first instance and in the second removes the threat of sociological ambivalence by maintaining the established relationships.

Unfortunately, in both kinds of situations there also appears to be a threat to the actor's self-conception, and role-distance behavior can be conceived as a way of dealing with this threat. This point is briefly mentioned by Goffman in a discussion of enacting roles without the proper claim: "role distance will have defensive functions."[3]

It is hypothesized here that certain significant persons are often present in the situation where the actor is playing out a role to which he has no claim or from which he is trying to withdraw as he enters a new status. In the latter case, as Coser points out, these people are members of the reference group to which the individual aspires. The actor is increasingly dependent upon members of this group for the validation and support of his evolving self-conception, and he is perhaps exceptionally sensitive to their critical surveillance in any interactive situation. During this transitional period, he often finds himself having to enact

[1] Rose L. Coser, "Role Distance, Sociological Ambivalence, and Transitional Status Systems," *American Journal of Sociology*, LXXII (September, 1966), 173–87.

[2] Robert K. Merton and Elinor Barber, "Sociological Ambivalence," in Edward A. Tiryakian (ed.), *Sociological Theory, Values, and Sociocultural Change* (New York: Free Press, 1963).

[3] Erving Goffman, *Encounters* (Indianapolis: Bobbs-Merrill Co., 1961), p. 112.

the older situated roles[4] with which he no longer wishes to be identified (cf. Goffman's example of the older child on the merry-go-round, pp. 107–8). Consequently, to preserve his self-conception of one who is a member of the new reference group by insuring its validation by these significant onlookers, the actor takes role distance.[5]

Where the actor is playing out a situated role to which he has no claim, the others present in the situation are often those who have a *legitimate* claim to the status and role being enacted. Here the actor has little of his self invested in the situated role, but it may still be necessary to show onlookers, by means of taking role distance, that one is not serious about this activity and so to avoid being labeled as an incapable practitioner. Few people like to make fools of themselves under any circumstances (cf. Goffman's illustration of the lower-middle-class girls riding horses, pp. 111–12).

To protect the self in both kinds of situations, one takes role distance, "suggesting that the actor possibly has some measure of disaffection from and resistance against" the role expectations.[6] And this is why the audience is so important in Goffman's formulation (p. 109). In the sociological ambivalence explanation, the role of the audience in the situation is not satisfactorily linked to the incompatible expectations. This defensive function of role-distance behavior, as it protects the self-conception of the actor, *cannot* be explained by the desire to resolve sociological ambivalence. In fact, it is doubtful that this explanation applies here at all because the contradictoriness of the role requirements is not the critical condition leading to role-distance behavior.

This brings us to another point: the consideration of a class of role expectations which are not necessarily contradictory or incompatible, which do not produce sociological ambivalence, but which are generally regarded as unenjoyable or distasteful. There are role expectations which, if one shows attachment to them while performing before significant role others, might bring on some loss of respect and a momentary lack of support for one's self-conception. One could cite many examples: filling in routine reports for the businessman, playing the works of modern composers for the symphony orchestra musician who loves only the music of the classical period, grading examination papers for many professors, or doing dishes for most housewives.

To conclude, it appears that in some cases of role-distance behavior an explanation in terms of a desire for social support for one's self-conception is required. Although it is contrary to Coser's formulations, the above discussion suggests that an explanation in terms of sociological ambivalence has its greatest use in *stable* status situations, where the actor is faced with incompatible expectations while enacting a role to which he has a legitimate claim. (This proposal is made in spite of Goffman's quite inappropriate surgery example.)

INSTITUTIONALIZED ROLE AND SITUATED ROLE

After commenting on the humorous behavior of the surgeon, Coser remarks that certain contradictory consequences stem "from some misconception in Goffman, as

[4] When used in connection with Goffman's work, the terms "role" or "situated role" in this paper refer to those expectations of behavior which apply to specific situational contexts and are associated with the tasks at hand.

[5] There is an additional force operating here to bring on role-distance behavior: members of the new reference group are also passing judgment on the actor's qualifications to become one of them. In many cases, he only demonstrates his disqualifications in his old role. So the best he can do is to disclaim these by taking role distance.

[6] Role-distance behavior expresses an attitude which is to some degree the opposite of "attachment" to a position or to a situated role. Attachment occurs when "the self-image available for anyone entering a particular position is one of which he may become affectively and cognitively enamored, desiring and expecting to see himself in terms of the enactment of the role and the self-identification emerging from this enactment" (Goffman, p. 89).

in a good number of other sociologists, of what 'role' refers to" (p. 179). After a lengthy discussion of selected aspects of role, she concludes that "if a role were defined by concrete behavior as Goffman *implies* when he speaks of the 'role of merry-go-round rider' or of 'merry-go-round role distance,' there would be as many social roles as there are verbs in the language" (p. 183).[7] For this reason, she suggests we reserve the term "role" to express a relationship between the actor and role others so that "it becomes at once clear that it refers to the rights and obligations surrounding a status position." With this background, she proposes that "role distance" be defined as "the type of expected role behavior that takes distance from status position."

Perhaps Goffman "implies" that roles are defined only by concrete behavior; and earlier we noted his notion of "situated role." However, in at least two places in the role-distance essay, he demonstrates that he is aware that these situated roles are not isolated from their institutional moorings but are situational enactments of these generalized conventional patterns (pp. 99, 134). The reason for this distinction is clear.

> Where the social content of a situated system faithfully expresses in miniature the structure of the broader social organization in which it is located, then little change in the traditional role analysis is necessary; situated roles would merely be our means of sampling, say, occupational or institutional roles. But where a discrepancy is found, we would be in a position to show proper respect for it [Goffman, p. 99].

The point is that roles take on different complexions in different contexts, and it is supported by a variety of considerations. Goffman himself makes a careful distinction between "typical role, the normative aspects of role, and a particular individual's actual role performance" (p. 93). In typical role, we find the actor's *interpretation* (Goffman speaks of the "response of individuals") of the normative elements; and in the individual's actual role performance, we find behavior based on this interpretation and the contingencies of the situation as defined by that same actor.

The role performance itself is influenced by a variety of conditions. (1) The very physical setting is important. (2) The others present must be taken into consideration: who they are (an especially crucial issue in a discussion of role distance), their purposes, their definitions of the situation, the activity in which they are engaged, etc. (3) One's own purposes obviously affect role performance. (4) The "role identities" of the actor must be considered.[8] By role identity is meant the actor's conception of how he would like to be and act in connection with a certain identity. (5) Even though interaction may be taking place on the basis of one or two major role identities, any actor in the situation may wish to incorporate other such identities for personal reasons.[9] (6) An always important part of role performance is one's ability to carry out his interpretation of the normative role expectations. (7) Finally, perceived role strain will influence behavior at the concrete level.

The upshot of all of this is that we cannot study *actual role behavior* very effectively from a structural and institutional point of view alone, as it seems Coser is suggesting with respect to role distance. This must be done at the situational level.[10] Goffman recognizes this, and in pursuing this objective he does not throw out the broader normative framework but includes it with a collection of other considerations

[7] Italics mine.

[8] George J McCall and J L Simmons, *Identities and Interactions* (New York: Free Press, 1966), p. 67.

[9] *Ibid*, p. 85; Ward H. Goodenough, "Rethinking Status and Role" in Association of Social Anthropologists of the Commonwealth, *The Relevance of Models for Social Anthropology* (London: Tavistock Publications, 1965), p. 7.

[10] Cf. Neal Gross, Ward S. Mason, and Alexander W. McEachern, *Explorations in Role Analysis* (New York: John Wiley & Sons, 1958), pp. 71-74

which better enable him to explain actual role behavior.

This brings us to a final point: Is role distance part of the normative framework or not? Coser says that it is (p. 174). She points out that one is expected by members of the role-set (and perhaps others, as well) to display role-distance behavior when enacting certain parts of a role. Certainly our previous discussion about distasteful role expectations might be interpreted in these terms.

Goffman, on the other hand, correctly places role distance as part of *typical role* (p. 115). In this usage, role distance is a state of mind, actually an *attitude* toward certain role expectations, based on the meaning of them for the individual. The expectations themselves are not inherently good or bad, attractive or unattractive, tasteful or distasteful. It is the human actor who imposes these evaluations upon them; and although these evaluations are often learned and may appear with great frequency in the community or society, this should not obscure the fact that role distance is both personal and mental, in a way which expectations are not.

If it is permissible to regard role distance as a particular sort of attitude (and I see no reason why we cannot have attitudes toward role expectations), then it should be accorded the same status as other attitudes. We have always had expectations about what attitudes people should hold toward various parts of the environment, but we generally do not consider the attitudes to be part of the normative framework, anymore so than the personality of which they are component parts. It should also be noted that attitudes, under specified conditions, lead to predictable behavior, which in the case of role distance we have been referring to as "taking role distance" or "role-distance behavior."

Coser's misunderstanding of this point justifies the earlier discussion of role and situated role and underscores the importance of including notions like typical role and interpretation or meaning in traditional role analysis. Briefly, then, role distance is not part of the normative framework of a role but an attitude based upon the actor's perception of that framework; and how it is manifested as behavior depends upon the definition of the situation.

ROBERT A. STEBBINS

Memorial University of Newfoundland

BOOK REVIEWS

Primitive and Peasant Economic Systems. By MANNING NASH. San Francisco: Chandler Publishing Co., 1966. Pp. viii+166 $5.00.

Professor Nash's book is, despite its relative brevity, and despite certain difficulties, one of the best general summary treatments to date of economic anthropology. For Nash, the basic task of economic anthropology is to examine the patterns of flow of goods and services in society as they relate to strategies of distributing scarce goods and services over multiple uses in the face of differentially valued ends, in relation to non-economic aspects of social structure. Ultimately, he would hope to encompass both economic and non-economic variables in a single explanatory framework. He does not claim to have done this; he offers the present book as "a navigational guide" to this end. This is exactly what this book must be taken to be. It is indeed such a guide, and can be a very effective one.

Nash first treats us to a very general description of primitive and peasant economies. His model involves four basic dimensions: technological complexity, structure of productive units, systems of exchange, and control of wealth and capital. A discussion of the nature of markets follows and leads to a treatment of the relationship of economy and society. Finally, the book concludes with a discussion of change, economic development, and modernization. The exposition typically proceeds by presenting general descriptions and illustrating them with ethnographic materials drawn not only from the author's own work but also from that of other major writers in the field. Nash is at his best in the analysis and interpretation of these materials and, as a dividend, provides the reader along the way with a summary review of much of the most recent descriptive literature.

Inherent in the very merits of this "anthropological" mode of presentation, however, are a few shortcomings. Despite an initial avowal to the contrary, the book is not really very theoretical. It is concerned more with describing constant properties than with stating relationships between variables and presents illustrations rather than data per se. This objection is perhaps partly a matter of taste, for Nash is actually quite modest and disarming on this score. In his Introduction he explicitly states that his effort "stopped short of axiomization or pyrotechnic display of symbols," and I am certain that Nash would insist that theoretical enthusiasm must be tempered by sophisticated ethnographic sensitivity in light of available data. Nonetheless, I personally should have preferred less modesty and a few more general propositions containing variables, even at the risk of an occasional "pyrotechnic" leap into the unknown. Some of the constant properties alleged are actually subject to considerable variation. For example, although it is true that work organizations in non-industrial society are largely derivate from other units, some are certainly more so than others, and differences on this score can have important implications.

Nevertheless, it is certain that future theoretical work in this field must take place within the co-ordinates described and interpreted so well by Nash. This book is thus of some considerable importance; it shows us clearly where the ball park is, even if it does not quite get into the intricacies of the game. And an undoubted advantage of Nash's *modus operandi* is that it permits him to write engagingly, and in English.

STANLEY H. UDY, JR.

Yale University

The Elite in the Welfare State. By PIET THOENES. Translated from Dutch by JOHN E. BINGHAM. Edited with an Introduction by J. A. BANKS. New York: Free Press, 1966. Pp. 236. $6.95.

This book is of a genre that could only be written by a European sociologist. An American sociologist writing a book with this title would either write a tome of righteous indignation, describe the social organization of the

new elites, or, finally, minutely describe the key decisions and power balances in which the new elites are involved. This book, by a professor of sociology at The Hague, takes none of these tacks. Instead, we are treated to an elaboration of the concept of an elite and an analysis of the new elites in the welfare state.

In Part I Piet Thoenes traces the consequences and limitations of various conceptions of elite groups and discusses their sources of inspiration, structure, and influence. In the process he presents a good review and critical evaluation of the writings on elites of Mosca, Pareto, Mannheim, and Geiger. As usual in the genre, there is great attention to analytic distinctions and little historical and empirical specification.

The first part is really a prelude to the second. In it a two-pronged analysis is developed. The analysis first focuses on the nature and structure of control of the welfare state. Then it turns to a description of an elite group of social-science-oriented administrators and academicians that has emerged. Thoenes defines a welfare state as "a form of society characterized by a system of democratic, government sponsored welfare . . . offering a guarantee of collective social care to its citizens, concurrently with the maintenance of a capitalist system of production" (p. 125).

Although welfare states vary among themselves (e g., in the emphasis on maintaining consumption as opposed to care for the poor), the liberal state is dead, and socialism no longer represents a viable alternative. The old elites are declining. The capitalist entrepreneurs are now controlled by or dependent on state action, and the historic mission of the politicians has turned into a choice among competing technical alternatives. In this situation a new elite, or at least a new group with power, is the cadre of administrative and university personnel who, because of their "scientific" knowledge, can offer technical choices to implement the broad political consensus. Thoenes worries about whether the new elite will be co-opted and lose their independence and objectivity. He also argues for a political sociology capable of offering new alternatives.

Although he recognizes the tensions of the welfare state in an underdeveloped world and although he wonders about the adequacy of controls over the bureaucracy, Thoenes does not see a new utopia or image of society on the horizons. Foreign policy remains an area that is less technically manipulable; but even here, on the European Continent, the range of political alternatives seems to have declined.

There are two major problems with this book. First, even within the context of a "soft" analysis, the author missed his chance to specify the range of variation in the nature of the new elite in different nations and to specify the decisions that have fallen to the new elite as well as those that remain critical political choices. Second, in pursuit of the superstructure of elites, the author has ignored the substructure of society and social change that conditions the emergence of new elites and moral visions. To state boldly an alternative to Thoenes, every one of the societies he would classify as welfare states has deep and historical internal divisions that continue to require high political skill for their management. Every welfare state may well become engulfed in underlying processes of technological and industrial change that can threaten the balance of elite groups and the compromises of the welfare state. Furthermore, the demands of foreign policy continue to require moral and political vision of the highest order. Thus, while no one would deny the growth of a new elite, it has but elbowed into an already crowded arena.

Mayer N. Zald

Vanderbilt University

Division and Cohesion in Democracy: A Study of Norway. By Harry Eckstein. Princeton, N.J.: Princeton University Press, 1966. Pp xvii+293. $6.75.

Professor Eckstein has done a scholarly job in correlating the political dynamics of Norway with its various sociological facets. It is a good example of the work which political scientists have been doing in recent years in taking political behavior out of its previous isolation and making it an important aspect of the over-all culture.

The book deals with the background of democracy in Norway, the historical development of the political divisions, the political cohesions and interrelationships of family life, child-rearing, and the various aspects of Norwegian national character with the type of stable democracy which Norway has developed

over the past 150 years. Each of these phases has been well handled, and the author has even developed an interesting theory to explain the stability of Norwegian democracy by delineating those characteristics which can lead to the creation of political stability. No country has ever emphasized more than Norway the importance of law and order in regulating human society. Both sociologists and political scientists should find this account of interest.

DAVID RODNICK

Texas Technological College

Division and Cohesion in Democracy: A Study of Norway. By HARRY ECKSTEIN. Princeton, N.J.: Princeton University Press, 1966. Pp. xvii+293. $6.75.

The question of the conditions making for stable government in modern democracy has been discussed a good deal in recent years. Some political scientists have advocated specific remedies, like the substitution of a majority system of elections for proportional representation. Others have pointed to some more general characteristic of a society, such as a certain level of economic development, as a condition of stability.

Harry Eckstein makes a double contribution to the debate. His book consists of two parts: a 225-page study of Norway and a 65-page Appendix outlining a general theory of stable democracy. Both parts should be studied together; perhaps the best thing is to go through the Appendix first and read the main part of the book afterward, in the light of the guiding ideas set forth in the Appendix. For this is more than a study of a particular country. It represents an effort to come to grips with the elusive and vitally important problem of political stability by interpreting a special case in terms of a comprehensive theory.

Eckstein sees the stability of democracies as depending on certain general *forms* of social and political life rather than any aspects of their specific contents. In a very brief statement, which does not do justice to a theory too sophisticated to be adequately presented in a short sentence, it may be summed up as follows: A government will tend to be stable if its authority pattern is congruent with the other authority patterns of the society of which it is a part. This theory, with several corollaries, the author proceeds to test against the background of Norway. He regards the undertaking as a first step only; if successful, it is to be followed by similar case studies of other societies.

I think it can be safely said that the first step represents a long stride forward. Eckstein handles his large amount of facts in an excellent way, making frequent comparisons between Norway and other countries: Britain, France, Germany, the United States, Sweden, Denmark. Regarding his value judgments on Norwegians, I must say, as a Norwegian, that I am afraid they are too generous. But this does not invalidate his statements of fact, which can be easily separated from the value judgments. If some propositions are too vague or general to be easily testable, there are also a large number of concrete and specific observations. I have found very few factual mistakes, and those that I was able to detect were so insignificant as not to be worth mentioning. Even the spelling of Norwegian names and book titles is free from printing error in almost every case. But what is particularly important, the study rests not on just a narrow selection but on a very broad foundation of facts. Eckstein uses, as other foreign scholars have done before him, the works of Norwegian historians pointing to the legacy of our past, which should certainly not be overlooked. Perhaps even some traits of Viking society have survived to our own day, though personally I doubt this. What I regard as important is that besides the writings of historians, Eckstein has explored fully the work of contemporary Norwegian social scientists. If his study cannot be regarded as definitive on all points, this is not due to the shortness of his stay in our country. On the contrary, he has managed to absorb and digest with remarkable speed practically all there is to be found of relevant material from the hands of Norwegian social scientists. However, there are still some serious gaps to be filled out in their work, and in many instances the author has had to fall back upon "the soft materials that are available, such as historical studies of the traditional sort and literary sources" (p. 62). He reproduces a number of statistical tables, but they cannot elucidate more than

certain aspects of social and political life. One must await the further development of Norwegian social science. In the meantime the society itself keeps developing also, and some important things have happened since the study was completed. In the fall of 1965 the non-socialist parties won an electoral victory over Labour; after twenty years of Labour party government a coalition ministry was put up by its four main adversaries, thus belying Eckstein's words about the "insurmountable distances" among the "four clearly unaggregative parties that stand against Labour" (p. 65). However, he was portraying, as he says at the end of his Summary, "an object moving from an obscure past to an unknown future." He can scarcely be blamed for not foreseeing this rather unexpected turn of events.

His book stands as a very able and scholarly work full of stimulating thought, well arranged and well presented. I must strike only one minor discordant note relating to the presentation: the Subject Index could have been better. Where some other authors have used the words *cleavage* and *consensus*, Eckstein prefers *division* and *cohesion*, giving good reasons for his preference (on p. 30). None of the four terms is listed in the Index, however. A reader may want to look up his justly sarcastic remarks about the gloomy predictions made in certain quarters on the consequences to follow from proportional representation; it can be done by looking under the names of F. A. Hermens or Maurice Duverger, but there is nothing to be found under words like *elections*, *voting*, or *proportional representation*. A more comprehensive Subject Index would have been helpful to readers of a work which analyzes and discusses quite an unusual number of important concepts.

STEN S. NILSON

Princeton University

Hauptprobleme der politischen Soziologie. By RUDOLF HEBERLE. Stuttgart: Ferdinand Enke Verlag, 1967. Pp. xi+363. DM. 49.

Professor Heberle's book *Social Movements*, published in 1951, has been widely used in academic teaching both here and abroad. The author has now been encouraged by European colleagues to produce a considerably expanded German version, which represents in fact a general treatise on political sociology.

The chapters on various movements and their social background have been brought up to date, more emphasis than before being placed on ethnic movements in Africa, Asia, and the United States. In addition, there is a more comprehensive treatment of political parties, their background, organization, and functions, as well as of political strategy and tactics, of revolutions and counterrevolutions. The author also gives a summary of recent methodological development, particularly in the field of ecology. It seems that the time would be ripe for a new edition of the original work in English.

STEN S. NILSON

Princeton University

National Development and Local Reform: Political Participation in Morocco, Tunisia and Pakistan. By DOUGLAS E. ASHFORD. Princeton, N.J.: Princeton University Press, 1967. Pp. xii+439. $10.00.

In this stimulating comparative analysis of patterns of political development, Professor Ashford examines the ways in which three governments—those of Morocco, Tunisia, and Pakistan—have gone about mobilizing members of the public to participate in the modernization process. While each of the three governments professes a desire to encourage popular participation, each has proceeded in a manner contingent on the power structure of the nation.

Thus, Morocco's monarch, operating on the basis of traditional legitimation of autocratic rule, has been reluctant to allow political institutions to develop which might remove important aspects of decision-making authority form his personal control. The result is a system which has been slow in fostering institutional and social change.

In contrast, Tunisia's one-party government with its highly non-traditional leader, Habib Bourguiba, has been relatively successful in making institutional innovations and in associating the public with the goals of the regime. Indeed, Ashford suggests that this very success has bred recent demands for greater diversity with which the single-party regime may find it increasingly difficult to contend.

After a turbulent decade of rule by a fractionated complement of political brokers, Pakistan has come under the direction of a military-bureaucratic elite highly committed to modernization. According to Ashford, the goals set by that elite have been carefully framed, but the elite has been unsuccessful in communicating them to the public. Indeed, it has been ambivalent about developing a participant orientation among the citizens of Pakistan. In part, these failures reflect the continuing antipathy of leaders of the regime toward the performance of political functions for the society.

In the course of this study, the author examines national policies in each of the three countries with respect to such matters as local government reform, rural development, planning, educational policy, and administrative responsibility. The process of national development sketched by Ashford is considerably more, however, than the formulation of policies and the construction of local institutions to carry them out. It involves, according to Ashford, a complex series of manipulations by the government to alter the affective and cognitive worlds of the individual citizen. Not only must the individual's feelings and emotions be properly focused in relation to government, but he must perceive a potential within himself for understanding and acting upon his environment.

Implicit in this formulation, of course, is a commitment to democracy. Indeed, in the first few pages of the book, Ashford argues for a greater appreciation of the limited utility of coercion. Yet, one might wonder whether he has paid sufficient attention to the affective and cognitive aspects of coercion. Learning behavior based on fear may have long-range traumatic implications for a society, but in the short-run the benefits may be significant in terms of mass mobilization. Yet, nowhere in his analysis does Ashford confront the developmental challenge represented by the Communist nations. For that matter, he does not fully enunciate the moral dilemmas involved in the societal manipulations which he does advocate.

One also needs to be wary of the tentative nature of the psychological arguments advanced by the author, since they are not based on behavioral data gathered in the field; rather, Ashford's statements consist largely of logical extrapolations of the literature of social psychology or second-remove interpretations of policy "payoffs."

The reader may also take exception to the sweep of Ashford's specific judgments, such as his comment that "the political system of the developed country is integrated in the sense that a common cognitive framework exists despite the new challenges. The United States, for example, knows what should be done about integrating Negroes into American society" (pp. 209–10). Despite such occasional statements, this study is an important and provocative contribution to the nation-building literature.

In the apparent haste of proofreading, the author and Princeton University Press have overlooked many minor mistakes. Not only are there a large number of typographical errors, but familiar references are misspelled (Lloyd "Rudolf," Phillips "Cutwright," Guy "Paulker"), and the leading paragraph in Section III appears to omit a "not" which confuses the meaning of the following two pages. Minor negligence of this kind causes some concern—whether warranted or not—about the care taken with regard to the substantive argument.

DONALD B. ROSENTHAL

State University of New York, Buffalo

The New Media and Education. Their Impact on Society. Edited by PETER H. ROSSI and BRUCE J. BIDDLE. Chicago: Aldine Publishing Co., 1967. Pp. ix+417. $8.95.

History bears witness to the cataclysmic effect on society of inventions of new media for the transmission of information among persons. The development of writing and later the development of printing are examples. This collection of essays discusses the present and possible effects on education and society of a third media revolution, the electronic revolution, which is now upon us and probably only in its earliest phase.

Bruce Biddle and Peter Rossi, the editors, lead off with an overview in which they remind us of some characteristics of American education (such as labor intensity and lack of specialization) and of the new media (such as cost and faddishness). They conclude that

it is unlikely that the classroom teachers will be replaced by gadgets in the near future. Instead they predict token adoption of some media and differential adoption of others. One effect on education they see as a paradox: the new media should lead to both standardization and individualization of instruction.

The chapters by Balanoff on electronic devices, by Robinson on simulation, and by Stolurow on programed instruction and teaching machines will be welcomed by those who feel uncomfortably hazy about the specifics and potentialities of these new developments. The most interesting of these is the chapter by Stolurow. He notes that the philosophy of programed instruction and teaching machines, which aim at individualized instruction and the facilitation of individual rates of progress, is at loggerheads with prevailing educational practice in this country. The norm is the "lock step group progress plan," in which "education is correlated with the passage of particular units of time rather than the passing of an achievement test" (pp. 130–31). Programed instruction and teaching machines, on the other hand, treat individual differences, not as a necessary nuisance, but as the basis of instructional decision-making.

Social scientists will want to examine the chapters which discuss the new media from the point of view of the economics and social organization of education. McCusker and Sorensen suggest that the most favorable relation of benefit to cost will follow the allocation of more of the budget to media and to specialized, ancillary personnel. Janowitz and Street fear that unless deliberate professional practices for managing the new media are developed they will lead to unfortunate standardization of education. The antidote is a focus on interaction and the realization that socialization and mobilization are as important functions of education as the transmission of knowledge. Through restructuring teaching tasks and releasing teachers for increased contact with pupils, the new media could lead to education that is individualizing and pluralistic.

After chapters on the physical plant, adult education, and higher education, the collection ends with a paper by Martin Trow, placing the new developments in their historical setting, and one by Nelson Foote, which goes beyond education to discuss the impact on our total society.

This is a useful book but not an exciting one The editors declare their aim to be "reasoned and reasonable social science fiction" (p 2). But the reader should not therefore expect high adventure. The analyses are indeed reasoned, the predictions reasonable. But the collection includes no particularly brilliant or provocative papers. There is little diversity of style and pace, and, of course, no humor. This is a pity, for essays on such a subject could be not only sound social science but also fun to read.

Nancy St. John

Graduate School of Education
Harvard University

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Urban Differentiation, Characteristics of Boards of Directors, and Organizational Effectiveness[1]

Mayer N. Zald

ABSTRACT

The internal differentiation of urban areas affects the support base of organizations by, among other things, its provision of a pool of potential supporters to organizations. In turn, the characteristics of actual supporters (in this case boards of directors) should be related to organizational effectiveness. Aggregate measures of the socioeconomic composition of boards of directors of thirty-four branches of the YMCA of Chicago are found to be correlated with demographic measures on the areas each serves. Furthermore, the composition of the boards is correlated with measures of organizational and board effectiveness. The demographic measures are also correlated with the spatial work-residence patterns of board members. The over-all import of the study is to link ecological and organizational analysis.

Organizations are affected by the social, demographic, and ecological characteristics of the communities in which they are located. As larger urban centers differentiate into subcommunities and neighborhoods of different sizes and functions (as shown in land usages), organizations with similar products and goals are likely to find wide variations in support. At the very least, "demand" for organizational products varies according to the "wants" of the population in the area it serves.

Not only does urban differentiation lead to variation in the demand for services but it also leads to variation in a community's ability to provide a support base for the organization. In this study we are concerned with the ability of different subcommunities to provide a pool of potential board members for a non-profit service organization, the Young Men's Christian Association of Metropolitan Chicago. Board members are expected, among other things, to make financial contributions, to provide leadership for the organization, and to add legitimation to its activities. *To the extent that urban differentiation restricts organizational access to a pool of potential board members with organizationally enhancing characteristics, we would expect lower organizational effectiveness.* For example, organizations in slum areas may find it difficult to locate board members with "desirable" attributes among the residents of the area because the *supply* of potential board members is restricted. Only if such organizations can link themselves to individuals and groups with no immediate connection to the area can they find the requisite board leadership. The Jacksonian emphasis on democratic participation in our society suggests that such a situation is bad since dependence on "outside" leadership leads to a devitalization of local institutions: "social absenteeism" leads either to an absence of leadership or to a leadership without real commitment and involvement. (A secondary concern of this paper will be to examine the correlates of

[1] This paper is one of several based on a study of the Young Men's Christian Association of Metropolitan Chicago. The larger study was supported by a grant from the National Institutes of Health (GM-10777). Support for this phase of the study was received from the President's Joint Committee on the Prevention of Juvenile Delinquency and Youth Crime (HEW-66216). I am indebted to Phillips Cutright, Ray Elling, and Ollie Lee for their critical reactions to earlier versions of the paper. Charles Kamen, Mary Queeley, Patricia Denton, and Sue Ann Sanders assisted in the collection and analysis of data.

board members' spatial connection to the areas in which agencies are located.) Regardless of this emphasis on participation, however, the necessity of recruiting board members, wherever they can be found, and of competing with other organizations in so doing suggests that organizations may vary in their *attractiveness* to potential board members. To understand fully the ability of organizations to recruit "good" board members, demographic factors influencing supply *and* organizational factors influencing attractiveness must be taken into account.

The foregoing statements represent sociological truisms, for the notions of both markets and, in more general terms, support bases represent part of the stock-in-trade of most sociological analysts of organization. But while quantitative studies of the relation of retail businesses to their support bases have been done,[2] there are few, if any, quantitative studies of other aspects of organizational support bases as they are linked to urban differentiation.[3]

This paper presents evidence on the relation of the ecological and demographic characteristics of the areas served by branches of the Young Men's Christian Association to some characteristics of their boards of directors. However, it is important to do more than just demonstrate differences among boards since such differences are important only if they have organizational consequences. We will, therefore, also be concerned with several outcome or effectiveness criteria. After first describing the research site, we will relate measures of the demographic and ecological base to board-member characteristics. Then we shall demonstrate the correlation of board-member characteristics to oganizational effectiveness.

RESEARCH SITE

The Young Men's Christian Association of Metropolitan Chicago is the world's largest urban association of YMCA's. In 1961, when this study was begun, it had thirty-seven departments (branches), over two thousand employees (including close to three hundred professionals), an annual budget of over fifteen million dollars, and roughly one thousand board members of local departments.

Historically, the association has had a strong emphasis on the importance of laymen to the operation and control of the organization; the YMCA was an association of lay members who, in the tradition of Protestant Congregationalism, governed their own organization. Thus, even while bureaucratization and professionalization have occurred, an emphasis has been maintained on the importance and involvement of the boards of directors.[4]

The thirty-seven departments of the Chicago YMCA were located in the inner city, outer ring, and suburban areas; they did not, however, encompass the whole

[2] Brian J. L. Berry, *Commercial Structure and Commercial Blight*, Research Paper No. 85 (Chicago: University of Chicago Geography Department, 1963).

[3] Studies of urban ecology in the Park-Burgess tradition did examine these linkages in a qualitative fashion. For a recent comparative and quantitative study, one aspect of which focuses on this problem, see Peter Rossi, *Why Families Move: A Study in the Social Psychology of Urban Residential Mobility* (Glencoe, Ill.: Free Press, 1955), pp 55–62. See also L. V. Blankenship and R H. Elling, "Organizational Support and Community Power Structure: The Hospital," *Journal of Health and Human Behavior*, III, No. 4 (1962), 257-68; and R. H. Elling and S. Habelsky, "Organizational Differentiation and Support: A Conceptual Framework," *Administrative Science Quarterly*, VI (1961), 185–210.

[4] For the history of the YMCA in the United States, see C. Howard Hopkins, *The History of the YMCA in North America* (New York: Association Press, 1951). For a history of the Chicago association, see Emmett Dedmon, *Great Enterprises* (Chicago: Rand McNally & Co., 1957). Owen Pence's *The YMCA and Social Need* (New York: Association Press, 1939) is a good sociological analysis of the transformation of the organization. For a shorter study of the transformation of the YMCA, see Mayer N. Zald and Patricia Denton, "From Evangelism to General Service: On the Transformation of the YMCA," *Administrative Science Quarterly*, VIII (1963), 214–34.

metropolitan area. Gary, Oak Park, and Evanston, for instance, had YMCA's which were not part of the metropolitan association, while the North Shore suburbs (Lake Forest, Winnetka, Glencoe, etc.) had never organized YMCA's. Most departments were identified with a community area, and all except three had delimited service areas. These three exceptions served the total community (i.e., the "Loop" area) and were excluded from further analysis. Obviously, the different areas are likely to develop different kinds of YMCA's, and historically there has been a tendency for larger departments to locate near commercial and industrial centers while smaller departments locate primarily in residential areas.

Three points regarding the departments studied should be noted. First, the boards of directors of each department were selected by the individual departments and were—except in unusual cases—self-perpetuating. Thus no central allocating or recruiting mechanism existed that would substantially influence the ability of local departments to compete for board members. Second, because the departments varied in size and program, there was some variation in the attractiveness of individual departments to potential board members.[5] Finally, the departments existed in all areas of the city, thus providing a wide variance in demographic base.

The analysis strategy is as follows. The next section presents correlation coefficients relating selected demographic characteristics to characteristics of board members. Then, the relation of board characteristics to several outcome measures—indexes of board and departmental effectiveness—is considered. Finally, the discussion is complicated by presentation of alternative explanations of results—on the one hand, considering the value of the correlations of demographic and outcome variables with those of board characteristics and outcome; and, on the other, the alternative value of departmental expense (which indexes both attractiveness and internal organizational features) as an explanatory variable.

DEMOGRAPHIC CORRELATES OF BOARD-MEMBER CHARACTERISTICS

The land use patterns of the city affect the supply of potential board members by bringing into the areas served by the departments people with different social attributes which may be considered more or less desirable. The purpose of this section is to correlate demographic variables (presumptively indexing potential supply) with the actual socioeconomic characteristics and work-residence patterns of board members of different departments.

Demographic characteristics.—Four measures of the departmental area are employed: total population residing in the service area, median family income of the resident families, per cent white of the

[5] Underlying this paper, though not tested in it, is an embryonic theory of the supply, demand and recruitment of board members of voluntary associations. To state the theory briefly: the "supply" of potential board members varies in quality and number depending upon the occupational, educational, income, and elite composition of the available population. It is also affected by such attitudinal dimensions as the "associational-regarding" sentiments in the population. The "demand" for board members depends upon the number of associations attempting to gain or increase public legitimation and support and the need of these organizations for leadership for internal management. The competition among organizations leads to a distribution of the supply according to the differential attractiveness of organizations.

In general, larger organizations are more attractive than small ones because they permit a wider scope of action, a perception of greater community value, and a larger stage for self-aggrandizement. In general, organizations that deal with central or important societal values (e.g., hospitals and universities) are more attractive than those that deal with more peripheral values (e.g., community centers providing recreation for slum children).

As Ray Elling and Ollie Lee have noted in a personal communication, the above theory omits the processes and mechanisms of recruitment and involvement. Specifically, organizations that have "quality" or "power" boards find it easier to recruit others of similar standing both because of the associational and interpersonal networks in which the board members move and because others are attracted to boards that already have people of prestige on them. Once on a board, a person's awareness, interest, and involvement may develop.

resident population, and total number employed in the area (regardless of whether the population lives in the area). The first three variables were obtained from census tabulations.[6] Where census tracts lay in two or more departments, the figures were apportioned according to the proportion of the tract's land area lying in each service area.

The fourth variable could not be obtained from census reports, but data were available on the number employed in each postal zone.[7] Where postal zones overlapped two or more departments, a land use map, a postal zone map, and maps of departmental areas were used to apportion the number of employed.[8]

All four of these variables are conceived as supply variables, with larger scores representing a larger pool of potential board members. The first three variables index the pool of potential board members living in the area, while the last variable indexes, presumptively, the pool of business leaders associated with a larger working force.

Aggregate measures of board characteristics.—Measures on board composition come from one source, a board rating questionnaire filled in by the executive secretary of each department.[9] These measures fall into two groups: measures of socioeconomic status, and measures of the spatial location of work and residence. The measures of socioeconomic status are drawn from the executives' description of board members' occupations. These we summarized into six categories: "business leaders," "middle management," "professionals," "religious leaders, ministers," "labor leaders," and "other." The percentages in the last three categories were very small and will not concern us further.[10] The first three comprise the status measures used.

The executive secretary also indicated whether each board member lived and worked within the departmental area. This information was used to develop four measures: per cent live in-work in, per cent live

[6] *Bureau of the Census Report PHC-1, for the Chicago Standard Metropolitan Statistical Area, 1960* (Washington: U.S. Government Printing Office) and the *Local Community Fact Book Chicago Metropolitan Area, 1960* (Chicago: Chicago Community Inventory, University of Chicago, 1960). The data are summarized by departmental areas in Mayer N. Zald and Charles S. Kamen, *Selected Characteristics of the Residents of the Service Areas of the Local Departments of the Metropolitan Chicago Young Men's Christian Association* (Chicago: YMCA of Chicago, 1964).

[7] *Employed Workers Covered by the Illinois Unemployment Compensation Act, 1955–1961, with Breakdowns for Chicago Postal Zones and Major Suburban Communities* (Chicago: Illinois State Employment Service, June 15, 1962 [mimeographed]), and *Suburban Factbook* (Chicago: Northeastern Illinois Metropolitan Area Planning Commission, 1960–61).

[8] The procedures used are presented in more detail in Charles S. Kamen, *The Boards of Directors of the Chicago YMCA: Correlates of Board Member Participation* (Chicago: YMCA of Metropolitan Chicago, October, 1963), Appendix II.

[9] It is appropriate to note that these data, although crucial to this paper, were not collected as part of the larger study design. Fortuitously, I had learned that one of the metropolitan office staff was planning to gather information from the executives of each department about the training of board members. He expanded his program-oriented survey to include questions relevant to our study. The questionnaire was so structured that the secretary entered information from his records and perceptions on *each* board member. These were then summarized for each department by our research staff.

[10] At one point, a sheer average of Duncan socioeconomic ratings of occupations was contemplated but the special nature of our population invalidated such a measure. In particular, Duncan scores result in highest scores being given all professionals. Yet, both the YMCA secretaries and I believed that many of the business leaders who would have scored only moderately on the Duncan index had much higher prestige, wealth, and social standing than many of the professionals. To give but one example, a multimillionarie who was a nationally known realtor and builder of apartment complexes would have received a score of 76 if classified as self-employed, real estate, or 51 if classified as self-employed builder, while any lawyer would have received a score of 93. Many of the businessmen came from the upper strata of occupations that have wide intraposition variance, but Duncan scores reflect only the general standing of the occupation.

in-work out, per cent live out-work in, and per cent live out-work out. These measures can be considered a rough measure of "social absenteeism" or, conversely, of leadership resources within an area.

Results.—We have used product-moment correlations of the *t*-scored aggregate measures to examine the relations of demographic characteristics to board characteristics (and to facilitate later analysis as well).

TABLE 1

CORRELATIONS BETWEEN DEMOGRAPHIC CHARACTERISTICS OF DEPARTMENTAL AREAS AND RESIDENCE PATTERNS OF BOARD MEMBERS

($N=34$)

Demographic Characteristics of Area	Work-Residence Patterns			
	Work in-Live in	Work out-Live in	Work in-Live out	Work out-Live out
Total number of people employed in area*	− 33	− 44	16	36
Total number of people living in area*	− 11	− 22	18	02
Median income of residents in area*	56	24	− 21	− 42
Percentage of white residents in area*	19	15	05	− 22

*Excludes three departments, two of whose service areas are city wide and the third of which is restricted to a hospital complex. These departments had a predominantly work in-live out pattern. Inclusion would have raised the correlation of number employed with work in-live out.

Table 1 presents demographic correlates of the residence patterns of board members. These data examine the search for departmental leadership in differentiated community areas. The subject of interest is the extent to which a community area provides a pool of leaders within its boundaries; or, if you prefer the Jacksonian understanding, to what extent are organizations led by people with local orientations and maximum commitment to local institutions.[11]

Two key conclusions emerge from an examination of the pattern of correlations. First, the larger the number of people employed in an area the less likely are board members to live in the area (work in-live in, $r = -.33$; work out-live in, $r = -.44$). Departments situated in industrial and commercial subcommunities do not recruit from among local residents. Furthermore, boards in areas having large concentrations of employment also tend to recruit board members who *work outside* of that area (work out-live out, $r = .36$). These boards are not dependent on local leadership pools alone.

Second, the median income of the population residing within a community area is the best single predictor of the residence pattern of board members. Departments serving areas of high-average income are much more likely to recruit board members residing in the area than are departments in low-income areas. The same pattern holds for departments serving high-percentage white areas. (Median income and percentage white are correlated .74 over departmental areas.)

[11] This issue has plagued much of the discussion of local government and suburbanization. Does "social absenteeism" increase as local leadership sources move to the suburbs? Data not presented indicate that people who live and work outside of the areas whose boards they serve *do not* contribute less to those organizations. It may be that social absenteeism separates organizations from potential board members rather than lowering their commitment once they have joined. See Kamen, *op. cit.* (n. 8 above).

The main conclusion to be drawn from the above data is that increasing residential *poverty* in an area correlates positively with increasing departmental recruitment of non-residents, either of people who only work in the area or, if necessary, of those who both live and work outside of the area the department serves. (As is shown below, however, in terms of its contribution to organizational and board effectiveness, the ability to recruit from the area the department serves may be a mixed blessing.) In general, then, the potential supply, measured in this gross way, is related to the recruitment of locally based board members.

TABLE 2

CORRELATION COEFFICIENTS OF DEMOGRAPHIC CHARACTERISTICS OF DEPARTMENTAL AREAS AND OF WORK-RESIDENCE PATTERNS WITH SOCIOECONOMIC CHARACTERISTICS OF BOARD MEMBERS ($N=34$)

DEMOGRAPHIC CHARACTERISTICS	SES MEASURES (%)		
	Business Leaders	Middle Management	Professional
1. Total number of people employed in area	54	− 21	− 17
2. Total number of people residing in area	33	− 27	− 17
3. Median income of residents in area	− 05	02	− 06
4. Percentage white residents in area	− 04	27	− 23
5. Work in-live in	− 39	09	24
6. Work out-live in	− 28	12	10
7. Work in-live out	33	− 03	0
8. Work out-live out	.19	− 10	− 06

In terms of its contribution to organizational effectiveness, the socioeconomic composition of a board's members is more important than their work-residence pattern. How, then, do the supply variables relate to our measures of socioeconomic characteristics?[12] In Table 2 the largest correlations are those between *number employed* and *number residing* in an area and percentage business leaders. As size of work force and of resident population increases, the aggregate status of board members increases. Median income is of little value in predicting the aggregate status of board members.

How can we explain these findings? The bottom half of Table 2 helps to unravel these relationships. The correlations indicate that departments with larger proportions of members living within the area are more likely to have boards with lower aggregate status (compare percentage business leaders, rows 5 and 6 with rows 7 and 8). On the other hand, departments that attract board members living outside the area are more likely to have boards with higher aggregate status. Often these members are people who reside in areas lacking YMCA's (e.g., the North Shore communities). Paradoxically, then, given the social ecology of Chicago, the location of departments within areas favorable to local re-

[12] A word is in order regarding the measurement of socioeconomic status The three measures of occupational status are not fully independent of each other. As noted above, the executive secretary was asked to place each board member in one of the following six categories (1) professional leader—doctor, lawyer, etc.; (2) business leader—officer of firm or corporation; (3) middle management in business or industry; (4) religious leader; (5) labor leader; or (6) other. Thus, while there are five degrees of freedom, a high percentage in one category limits the variation in the other categories Furthermore, in actuality, most board members were placed in one of the three categories which we are reporting. In no department did the percentage falling outside of these categories rise above 42 per cent. The "other" category was typically the largest of the discarded three, it was extremely heterogeneous, including retired people from diverse occupations as well as housewives and others. The intercorrelations among the three measures of SES reported in Table 2 are:

Per Cent	1	2	3
1 Business leaders		−.57	− 23
2 Middle management			− 47
3 Professional			

The fact that the intercorrelations of the first three variables do not account for more than 40 per cent of variance suggests that their lack of independence does not prohibit substantive interpretations of correlations with other variables.

cruitment of leadership limits the over-all status of the board that is actually attracted. (Presumably, these departments would recruit higher-status board members were mechanisms for attracting them available.)

The foregoing analysis demonstrates that the work-residence patterns of board members are related to urban differentiation in land uses and that urban differentiation is also related to the socioeconomic status of the board members that are attracted. From the point of view of organizational analysis, however, urban differentiation and its correlates are only important as they affect organizational functioning. What, then, is the effect of these factors on organizational effectiveness?

BOARD CHARACTERISTICS AND EFFECTIVENESS

The measurement and conceptualization of both board and organizational effectiveness present a complex problem. The examination of organizational effectiveness involves many different facets—efficiency ratios, morale, actual attainment of goals, indirect measurement of goal attainment, community and membership commitment, and so on. Examination of the effectiveness of boards presents a similar welter of possibilities—the extent of public and personal financial support that is given or raised by the board, the knowledgeability and intelligence that are evidenced in decisions made by the boards, the success of boards in linking the organization to other organizations and sources of support, the relation of the board to the power structure of the community, and so on. Here we restrict ourselves to four easily quantified types of measures: financial contributions of board members, program participation, board attendance, and global ratings of organizational and departmental effectiveness.

Financial contribution.—The executive secretary of each department extracted from organizational records each board-member's contributions for 1961 and 1962. Our measure, a direct measure of board effectiveness in contributing money, is the percentage of board members contributing an average of more than fifty dollars a year. While there might be even better measures of financial contribution (e.g., the ability of board members to influence Community Fund allocations, or the amount that board members raise from people not on the board), this measure has the dual advantages of precision and easy availability.

Program participation.—The percentage of board members involved in direct program leadership measures the extent to which board members lead specific programs (e.g., youth groups, athletic coaching, and the like). From the viewpoint of YMCA ideology, which stresses that the YMCA is an *association* of members, not a hierarchical organization, program participation is a direct measure of effectiveness. (In other organizations, of course, board participation might represent potential interference with and complication of staff duties.)

Meeting attendance.—One expectation of individual board members is that they know their department and help to shape policy by attendance at both board and committee meetings. Most departments convene the full board nine or ten times a year, and the committees meet as required. Our measure is the percentage of a department's board members attending more than the grand median of number of meetings attended by the board members of all departments. (Because the executive secretary keeps attendance records, each member's attendance is known.) It should be noted that no claim is made that decisions of the full board are actually determinative. As in other organizations, key decisions are often pre-arranged among staff and key committees. Certainly, however, we would expect attendance at meetings to relate to knowledge and awareness, all other factors being equal.

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and board effectiveness. Two knowledgeable staff members of the metropolitan office rated each board and each department on the following three phrases: "overall efficiency," "quality of programming" and "board strength." "Board strength" is a reputational measure of board effectiveness,[13] while the former two probe departmental effectiveness. These measurements are reliable and distinct, and use of a forced-comparison ranking procedure provided a normal distribution of departments on each of the variables.[14]

Results.—Table 3 presents correlations of board-member characteristics with the measures of effectiveness. The lower panels correlate selected demographic characteristics, residence patterns, and departmental expense with the measures of effectiveness. These latter coefficients allow us to examine the extent to which factors other than the characteristics of board members are helpful in determining effectiveness.

Column 1, top panel, clearly demonstrates that the percentage of board members rated as business leaders is directly related to level of contribution.[15] The percentage of middle management and professional is either uncorrelated or slightly inversely correlated with contribution levels. In the first instance, then, the expectation that attracting upper manage-

TABLE 3

CORRELATIONS OF BOARD CHARACTERISTICS, SELECTED DEMOGRAPHIC CHARACTERISTICS, RESIDENCE PATTERNS, AND DEPARTMENTAL EXPENSE WITH MEASURES OF EFFECTIVENESS

($N = 34$)

	% Above $50 Contribution	% Above Median Meeting Attendance	% Direct Program Participation	Board Strength	Over all Efficiency	Quality of Program
Board characteristics (%):						
Business leaders	43	− 23	− 58	67	48	42
Middle management .	− 17	19	20	− 57	− 33	− 35
Professional leaders .	− 09	21	26	− 13	− 32	− 07
Demographic characteristics of area.						
Number employed	01	− 05	− 34	35	46	21
Median income of residents	− 17	− 25	− 08	04	09	19
Residence patterns:						
Work in-live in .	− 35	− 05	− 42	02	− 16	11
Work in-live out .	29	14	− 30	− 12	− 02	− 15
Departmental expense ...	18	− 01	− 32	71	50	48

[13] The phrase "board strength" was purposefully employed. No other phrase captured as well the tenor of staff discussions in evaluating boards Usually a strong board was also considered a good one Some boards were considered passive and weak, others independent-minded and strong. It might have been possible to separate the dimensions of independence/non-independence vis-à-vis the metropolitan office from the dimension of strength. Our observations suggest that only a few boards were considered both strong and independent.

[14] For details, see Appendix I, by Mary Queeley, in Kamen, *op. cit.* (n. 8 above) Since the metropolitan office staff tend to push for liberal program innovations, the use of their ratings might be thought to lead to an ideological bias in the ratings. The raters used, however, were both conservative and liberal; different raters were used for different dimensions. Finally, examination of the actual rankings revealed that several departments considered to be "innovative" were ranked down on some variables while several considered conservative were ranked upward on others. Inter-rater reliabilities are $r = 86$ for efficiency, $r = 71$ for board strength, and $r = .74$ for quality of program. Quality of program correlates 65 with efficiency and .67 with board strength. Efficiency correlates .63 with board strength.

[15] This is not surprising. The percentage business leaders correlates .89 with a measure based on the executive secretaries' perception of each board member's annual income.

ment to board membership would have a positive effect on contributions seems to be borne out. The low correlations found (none above .3) in reading down column 2 suggest that there is a slight tendency for boards with more well-to-do members to have lower attendance rates while boards with higher percentages of professionals may have slightly higher attendance rates. In a sense, then, the organization can trade attendance for contributions and vice versa. But the correlations are so low that a firm generalization is not warranted. Column 3 shows that departments with higher-status board members have low direct-participation rates ($r = -.58$). Again, participation is inversely related to status.

Substantial correlations are found between metropolitan staff ratings of the departments and characteristics of the boards. First, it is clear that the metropolitan office staff considers strongest those boards with the highest percentage of business leaders. The correlation of .67 (with business leadership) is among the largest found in this study. It is also clear that having well-to-do boards correlates positively with quality of department programs and with over-all efficiency. Although the picture is more complex than this statement indicates, it appears that having strong boards leads to greater effectiveness, both of program and of efficiency. The data seem to imply that boards do make a difference (and in the direction that most agency executives would predict). To sum up the first panel, then, it appears that the members of more well-to-do boards contribute more money than those on less well-to-do boards; the well-to-do boards also contribute to a more effective department. On the other hand, departments with more middle management and professional leadership tend to have higher meeting attendance and higher program participation.

The second panel of Table 3 presents relationships between the two demographic measures which were most importantly associated with the characteristics of board members—number of employees in area and median income of residents—and the measures of board and organizational effectiveness. The low correlation of median income of residents with the measures of effectiveness indicates that this aspect of the areas has but little association with the outcome variables. None of the correlations accounts for as much as 10 per cent of the variance.

The other demographic variable, number employed in area, has little correlation with three of our six measures. It does have substantial (for this study) correlation, however, with two of the ratings made by the metropolitan staff and with program participation Looking ahead to the fourth panel, we find a similar pattern of correlations between departmental expense and ratings of boards by metropolitan staff. And we have already noted the relatively substantial correlations of these outcome measures with the status of board members. Thus, both empirically and analytically the question of the determinants of these ratings remains ambiguous. These relations will be discussed in the final section.

Before leaving these zero-order relationships, however, we should mention the correlations in the third panel of Table 3 The correlation of percentage work in-live out patterns with contributions is due to its correlation with the percentage of business leaders on the board (see panel 2, Table 2). The percentage work in-live in has only slight correlation with all measures of effectiveness except direct program participation. The work in-live in pattern operates in an opposite way from the work in-live out pattern. Board members who both live in and work in are more likely to take a part in the program but less likely to contribute financially.

The over-all pattern emerging from Table 3 is that departments with high-status boards are associated with higher contribution levels and with generally better efficiency, program quality, and board strength. On the other hand they tend to have lower participation in direct program activities. Boards recruiting "locals" obtain slightly higher rates of program participa-

tion but little else. The data presented, then, certainly tend to confirm the basic proposition: Board composition is related to both board and organizational effectiveness.

DEPARTMENTAL EXPENSE, BOARD CHARACTERISTICS, AND MEASURES OF EFFECTIVENESS

Earlier we noted that the YMCA of Chicago had often located its larger branches in areas with large business and manufacturing concentration. In fact, departmental expense correlates .45 with total employment in the area. Furthermore, we postulated that board members were more attracted to large organizations than small. We then argued that the larger YMCA's were in a better position to compete for those board members considered most desirable. In our data the attractiveness of a larger organization is evidenced by a zero order correlation of .50 between departmental expense and percentage business leadership. The weight of all these factors suggests that the system functions so that those organizations which tend to be the most attractive to board members with the most desirable characteristics (from the organization's viewpoint) are also those located in areas with the largest pool of potential board members—a situation conducive to the "rich getting richer."

The question emerges as to whether the rich do actually get richer. Does the recruitment of "superior boards" actually lead to more effective operation, or is the association of board characteristics with several measures of effectiveness merely spurious, the correlation being simply a function of the fact that more effective organizations, as here measured, are also larger ones?

This question gains added meaning when the staffing pattern of the YMCA is considered. As a general rule the career of executive secretaries takes the following pattern: executive secretaries are recruited from among the "better" of the lower professionals (business managers, program secretaries, boys' work secretaries, and the like). A new executive secretary is usually placed first in one of the smaller departments. As he proves his ability to administer and build a department, he is promoted to a larger department. As a result, the executive secretaries of the larger departments are generally those with the most experience and, supposedly, competence. One skill expected of secretaries is competence at recruiting good board members. Thus it may be that many of the findings from correlating departmental effectiveness with board characteristics may simply be a function of the department's size and the quality of its secretary. Moreover, larger departments may also be more effective because they benefit from greater division of labor.

Unfortunately, we do not have a rating of executive effectiveness so staff quality cannot be separated from department size We can, however, begin to separate department size (seen as a composite of staff quality *and* the advantages of a division of labor) from the effects of having boards with higher percentages of business leaders.

First, examination of column 1, Table 3, indicates that larger size of department does not correlate highly with the average donations of board members ($r = .18$). Thus, while departments with higher average expense do tend to have higher average contributions, the relationship is loose, and contributions are not automatic. Although we lack quantitative data on this question, our observations suggest that a department's ability to obtain large contributions from its board members depends on either a general understanding that board membership entails large donations (one smaller department had a standing rule that members must be able to donate one hundred dollars a year) or a demonstrated need. The larger departments are sometimes money-making operations and, unless the secretary and board create special projects, they find it difficult to justify a heavy emphasis on contributions. Thus, while having wealthier members *permits* a depart-

ment to obtain larger contributions, this factor is operative only when a need can be justified.

A more convincing way to examine the contribution of board characteristics and departmental size to organizational effectiveness is to compare partial correlations. Table 4 presents partial and multiple correlations of departmental expense and percentage business leaders to four measures of effectiveness (the three global ratings and percentage of members contributing more than fifty dollars annually). It is clear that board strength is related to both the percentage of business leaders on the board and the size of the organization. Larger departments are able to attract and utilize board members in such a way that the metropolitan staff sees them as being "strong." The multiple correlation of .80 suggests that the major components of strength are caught in the two independent variables. Both departmental expense and business leadership make independent, though smaller, contributions to quality of program ratings and to over-all efficiency. Adequate measurement of *staff* effectiveness might show these relations to be spurious, yet at this point we cannot rule out the contribution of boards to effectiveness. Finally, the partial correlations make it clear that when the status of board members is partialled out, departmental size is *uncorrelated* with amount of contribution.

SUMMARY AND CONCLUSIONS

This paper has attempted to bring together several areas of sociological analysis. In particular, we have shown that the processes of urban differentiation have consequences for the ability of a service organization to attract social support; the status of boards of directors is related to the income structure of residents in an area and the number of people employed in the area. Furthermore, we have shown that, within the limits of our data, the characteristics of a board are related to the effectiveness of an organization; higher-status boards, contributing greater financial aid, are likely to be associated with departments that are rated as more effective in program quality, level of efficiency, and board strength. On the other hand, these boards may show lower meetings attendance rates and less participation in programs. Furthermore, an analysis using partial correlation showed that these relationships are not merely a spurious correlate of departmental size (although they may be spuriously related to executive and staff competence, which was not measured). Departmental size is interrelated with demographic characteristics of areas, with ability to attract high status boards, and with measures of effectiveness.

TABLE 4

PARTIAL AND MULTIPLE CORRELATION OF FOUR MEASURES OF EFFECTIVENESS WITH DEPARTMENTAL EXPENSE AND PERCENTAGE BUSINESS LEADERSHIP

Variables.
- 1 = Board strength
- 2 = Quality of program
- 3 = Over-all efficiency
- 4 = % above $50 contribution
- 5 = % business leadership
- 6 = Departmental expense

Partial Correlations:
- 15 6 = 52
- 16 5 = 48
- 25 6 = 28
- 26 5 = 25
- 35 6 = 31
- 36 5 = 35
- 45 6 = 40
- 46 5 = 04

Multiple Correlations.
- 1 56 = 80
- 2 56 = 48
- 3 56 = 57
- 4 56 = .43

More important, however, than the specific associations shown is the general line of analysis implied. On the one hand, the process of metropolitan differentiation has consequences which are rarely considered in ecology texts. Here we have attempted to link urban ecology with organizational theory; the two are joined both through the concept of a support base and through the factors determining organizational lo-

cation. Furthermore, we have quantitatively shown some effects of support base on organizational effectiveness. Too often both of these concepts are left unmeasured and vacuous.

This study has certain limits which should be noted. First, the role of staff has not been adequately examined. More important for the major analytic theme, however, we have studied the YMCA in vacuo, yet it must compete for board members with other organizations in its areas. There is not only a supply of potential board members, there is also a demand function at work.

And not only must the YMCA compete for board members but the effectiveness of its boards is related to the linkages they establish with other organizations and centers of power. Our general postulate would be that the higher the status of the board the more likely the organization is to command resources and legitimacy from the society. A more subtle analysis, however, would show that high status alone is insufficient; depending on the functions to be served, a balance in board recruitment may be necessary. The professional who assumed that only status was of importance in recruiting boards would be mistaken. Indeed, for certain specific issues, decisions, or linkages, general social status might even hinder the appropriate action.

In spite of the limitations of this study, however, its central thrust should be noted: The study of boards of directors cannot be limited to Veblenesque caricature in which board members conspicuously consume community prestige; instead, it must be seen as an integral part of organizational theory.

Vanderbilt University

Educational Mobility and Access: Growth and Paradoxes[1]

William G. Spady

ABSTRACT

The educational attainments of American males aged 25–64 are examined in relation to the educational backgrounds of their fathers. Although attainment levels improve for men in all status groups over time, the differences in reaching and completing college between men from high- and low-status origins appear to be increasing over time in both actual and conditional probabilities. When race is introduced as a control, the attainments of whites exceed those of non-whites for all status and age groups. Although these social differences are generally greatest at the lower levels of schooling, they are also substantial at the college level among men with better educated fathers.

One of the truisms of American sociology is the marked increase since the turn of the century in median years of schooling among successive cohorts of young people. Since formal education has traditionally been viewed as a means to occupational and social mobility, the expansion of secondary and college enrolment rates is often interpreted as a sign of increasing equality of educational and social opportunity. We propose to show, however, that utilization of higher education has spread much more slowly among young men with poorly educated fathers than among those with well-educated fathers. The conditional probabilities of attending and completing college (given that one completed high school and entered college respectively) have in fact decreased over time for the sons of poorly educated men. The educational attainments of Negroes, moreover, are consistently lower than those of whites holding father's education constant.

It is necessary, therefore, that we distinguish between the aggregate and distributional trends in education. It is important to recognize also that in a population with a rising median schooling, a youth can receive more schooling than his father without advancing educationally relative to his age peers. Unless we examine how aggregate increases in school attainment are distributed among youth from different social origins, there is no way of knowing to what extent children from any given social stratum may have benefited from these improvements. Therefore, patterns of upward educational mobility may operate quite independently of rates of access to given levels of education. The children of men who failed to finish elementary school experience upward educational mobility merely by reaching high school, whereas the sons of college graduates must themselves finish college just to "inherit" their father's educational status. It is entirely possible, therefore, that expanding proportions of children with poorly educated fathers may be upwardly mobile in schooling without improvement in their chances of college attendance.

The reason for concerning ourselves with this topic extends beyond an interest in "democratization" of educational opportunities. According to findings by James A. Davis, a son must obtain more schooling than his father to achieve the same level of occupation.[2] In addition, the proportion of

[1] The author is indebted to Messrs. C. Arnold Anderson, Charles E. Bidwell, and James A. Davis of the University of Chicago, to Bruce K. Eckland of Educational Testing Service, and to Christopher Jencks of the Institute for Policy Studies for their valuable comments and criticisms of earlier drafts of this paper.

[2] James A. Davis, "Higher Education: Selection and Opportunity," *School Review*, LXXI, No. 3 (Autumn, 1963), 249–65.

white-collar workers with less than a high school diploma is diminishing, and college graduates are becoming more "professionalized." Stipulated levels of schooling become progressively more necessary, if not sufficient, for obtaining the more preferred jobs. These wider issues of mobility are not explored in this paper, but an exploration of the patterns of educational mobility can contribute to a more adequate determination of the schooling-mobility matrix. For example, has completing high school and college improved for children with poorly educated fathers as much as for the children of college graduates? Have the rates of college attendance and graduation improved for high school graduates of all social backgrounds? Has completion of high school and college improved as much for non-whites as for whites with similar backgrounds?[3]

The dependent variable in this report is the highest level of education obtained by the respondent. The three independent variables we shall consider are the respondent's age, race, and father's educational background. The latter is broken into four categories (less than eight years,[4] eight through eleven years, high school graduation, and one year of college or more) and serves as a rough index of family socioeconomic status. Respondents' ages are also classified into four categories: 25–34, 35–44, 45–54, and 55–64. (Given these categories, we should keep in mind that the youngest group would have moved from high school to college in the postwar years, the second group during the late thirties and World War II, the third during the late twenties and the Depression, and the oldest after World War I.) The data are also divided by race: white and non-white.

FINDINGS

The proportion of sons with more schooling than their fathers has increased over time from about half of the 55–64 age group to two-thirds of the 25–34-year-olds (Table 1).[5] Both educational "inheritance" and downward mobility have decreased.

[3] The data we shall use in an attempt to answer these questions were derived from the *Current Population Reports* of the U.S Bureau of the Census, Ser. P-20, No. 132, September 22, 1964 They were originally compiled as a supplement to the March, 1962, *Current Population Survey* on which Peter M. Blau and Otis Dudley Duncan based their analysis of occupational mobility. Although the case bases presented in our tables are only projected estimates of actual population parameters, they are based on a representative probability sample of the non-institutionalized male population of the United States in the spring of 1962. See Peter M Blau, "The Flow of Occupational Supply and Recruitment," *American Sociological Review*, XXX, No. 4 (August, 1965), 475–90; and Otis Dudley Duncan, "Occupational Mobility in the United States," *American Sociological Review*, XXX, No. 4 (August, 1965), 491–98. For a different analysis based on these same data, see Charles B. Nam, "Family Patterns of Educational Attainment," *Sociology of Education*, XXXVIII, No. 5 (Fall, 1965), 393–403.

[4] Included in the less than eight years category are respondents who did not report their father's education. This decision was made in order to include all of the respondents interviewed in our tabulations, thereby eliminating gaps in the data which might have impaired if not distorted the detail of the findings reported here. The decision was based on two empirical reasons. First, of the respondents who reported their father's education, those in the less than eight years category had the lowest achievement profiles in all four age groups, yet the profiles of the "No Response" group were either very similar to or even lower than this bottom group. Second, not knowing the education of one's father seemed most likely to occur either in families in which education was of such little relevance that it was never discussed or mentioned (i e, father had so little schooling that education was never a viable reference point in family affairs), or in cases in which the son never knew or knew little of his actual father. Either case represents a phenomenon strongly associated with what is known today as the "poverty syndrome"; the lack of a skilled and productive male identity figure in the household.

[5] The mobility data in Table 1 were derived for each age group by cross-tabulating the four categories of father's education with similar categories of respondent's education. The total number of cases falling on the major diagonal of each resulting 4 × 4 table was divided by the total number of respondents in the table, thereby giving the percentage who are educationally "stable." The respondents in the six cells of the table "above" the diagonal are upwardly mobile, and those in the six cells below the diagonal are downwardly mobile.

The chances of being upwardly mobile educationally have improved despite steady improvements in paternal levels of schooling.

Although upward educational mobility historically has facilitated upward social mobility, the Davis findings suggest that whether sons have more education than their fathers is less important in explaining social stratification or mobility than is the actual amount of education a son received (irrespective of his father's educational or occupational status). We must take into account not only aggregate rates of educational mobility but differential rates of attainment of levels of education that serve as criteria in employment. This brings us to the question: has completion of high school (or college) improved equally for children from all social strata? By using father's education as a measure of son's status of origin, we find that it has not (Table 2).

In this table we are considering access to four different levels of education: (*a*) reaching high school,[6] (*b*) high school graduation, (*c*) at least one year of college, and (*d*) college graduation. Each cell within one section of the table reports the proportion of men with a particular family background and age who had completed a specified level of education. A cursory scanning of the table reveals that completion of successively higher levels of education has risen steadily over time for sons from each stratum of origin. However, we find for each age cohort that a son's chances of completing any given level of schooling are also associated positively with his father's education.

For example, the upper-left-hand cell of each section represents the (3,969,000) men aged 25–34 whose fathers had less than eight years of schooling. By tracing this group from Section A through Section D of Table 2, we find that 83 per cent completed grade school, 45 per cent graduated from high school, 14 per cent had at least a year of college, and over 6 per cent received a bachelor's degree. Among sons of the same age cohort having college educated fathers, however, 99 per cent reached high school, 93 per cent finished high school, 78 per cent had at least a year of college, and 52 per cent completed college. There are persisting and marked disparities in educational opportunities.[7]

TABLE 1

INTERGENERATIONAL EDUCATIONAL MOBILITY* OF RESPONDENT BY AGE

Age	Educational Mobility			Total	
	Upward	Stable	Downward	%	N†
25–34	63.5	29.8	6.6	99.9	(10,612)
35–44	62.4	30.6	7.0	100.0	(11,608)
45–54	54.5	37.7	7.8	100.0	(10,161)
55–64	47.0	42.4	10.6	100.0	(7,585)

* The term "intergenerational educational mobility" refers to a comparison of son's educational attainment with that of his parents, in this case his father.

† Base N for the percentage expressed in thousands.

[6] This category includes an undetermined number of respondents who completed eight years of schooling but did not go on to high school. The category in the original report ranges from eight to eleven years. We are, therefore, unable to distinguish men with only eight years of schooling from men who also went on to high school.

[7] Although this point hardly requires further substantiation, the partial Gammas between father's and son's education only fluctuate from .470 to .513 among the four age cohorts. For an interpretation of Gamma, see James A. Davis, "A Partial Coefficient for Goodman and Kruskal's Gamma," *Journal of the American Statistical Association*, LXII, No. 317 (March, 1967), 189–93.

TABLE 2

PERCENTAGE OF SONS OBTAINING A GIVEN LEVEL OF EDUCATION BY AGE AND FATHER'S EDUCATION

SON'S AGE	FATHER'S EDUCATION: Less than Eight (%) (1)	Some High School (2)	High School Graduate (3)	Some College or More (4)	ATTAINMENT GAP (%) (col. 4−col. 1)
	A Reaching High School				
25–34.	82 9 (3,969)*	94 6 (4,012)	97 4 (1,518)	99 6 (1,113)	+16.7
35–44 .	78 7 (5,598)	92 7 (3,803)	97.7 (1,278)	98 8 (929)	+20 1
45–54. .	70 1 (5,320)	90 9 (3,142)	96 4 (993)	97 6 (706)	+27 5
55–64. .	60 4 (4,318)	85 8 (2,188)	88 4 (662)	93 0 (417)	+32 6
	B. Graduating from High School				
25-34 .	44 6	69 4	84 2	92 8	+48 2
35–44	41 2	59 5	79 6	92 8	+51 6
45–54. . .	32 1	46 9	76 0	78 4	+46 3
55–64	19 6	34 3	58 9	73 9	+54 3
	C Obtaining At Least One Year of College				
25–34	14 2	27 8	44 1	78 0	+63 8
35–44 .	14 4	22 0	44 9	70 4	+56 0
45–54	11 0	19 1	33 2	62 3	+51 3
55–64 .	8 4	15 0	31 4	47 3	+39 8
	D Graduating from College				
25–34. .	6 5	16.6	24 9	51 7	+45 2
35–44 . .	5 8	11 0	27 5	53.1	+46 3
45–54 .	5 4	8 9	14 5	37 7	+32 3
55–64. . .	5 4	8 5	16.9	27.6	+22 2
Partial Gammas: son's ed. × age/father's ed.†	− 203	− .278	− .180	− 251	.

* Projected base *N* for the percentage expressed in thousands.

† Son's Ed. × F. Ed/Age 25–34, +.513, 35–44, +.482; 45–54, +.470, 55–64, +.507.

Since for most status categories rates of completion improve consistently across age cohorts,[8] however (the partial Gammas between age and education range from —.180 to —.278 among the four status groups), one can estimate how much this educational "attainment gap" between children from the top and bottom strata of our society appears to have increased or decreased over time. For each age group we subtract the proportion of sons with grade school-educated fathers who reach a given level of education from the proportion of their cohorts with college-educated fathers who complete that level of schooling (Table 2, col. 5).[9]

As we move from Section A to Section D of the table, the pattern of change in this "opportunity gap" definitely reverses. We can see in Section A, for example, that status differences in high school attendance diminish from 33 per cent for the 55–64-year-olds to only 17 per cent for those aged 25–34; that is the diffusion of norms for some high school attendance has become almost universal.

Let us next consider differences in graduation from high school (Section B, col. 5). Except for an irregularity among 45–54-year-olds,[10] there is a small decline in status disparities over time which will probably continue to close as the percentage of graduates among sons having college-educated fathers approaches 100 per cent, and state attendance requirements are enforced. Yet we cannot overlook the fact that more than half of the youngest men in this low social group lack a high school diploma. For college attendance, by contrast, the gap widens over time. In Section C, the difference between the two extreme status categories increases from 40 to 64 per cent. Although the proportion of sons from the top stratum who reached college increased by over 30 percentage points between the twenties and the fifties, the corresponding percentage among sons from low-status homes rose less than 6 points. The gap in college graduation also widened, from 22 to 45 per cent (Section D). The proportion of sons from low-status homes who finished college has risen imperceptibly while that for sons of college alumni doubled in a period of forty years.

This reversal can also be viewed as a process of shifting educational norms across

[8] The notable exceptions to this rule nearly all involve the youngest age group, and most of them concern college graduation Although this drop in graduation may reflect a genuine reversal in the assumed trend toward increasing proportions of college graduates in the United States, it is more likely the result of two processes: completion of undergraduate degrees by many men after the age of 25, and extended tours of military duty for college graduates in the officer ranks, thereby excluding them from our sample.

[9] It can be argued, of course, that the meaning and occupational implications of a less than grade school education have changed over time As Davis shows, a lack of formal education qualifications did not necessarily imply low social status forty years ago, but it clearly does today Hence, some might argue that using this criterion to define the low end of the social scale for all four age groups is misleading Since our concern is with relative as well as absolute differences, however, it is just as easy to argue that a college-educated father was by far a more unique figure forty years ago than he is today. As a result, the social realities associated to these two terms may have changed somewhat over the past forty years, but the relative difference between them has shifted less Ideally, of course, we would like to break each cohort of sons into quintiles (for example) on the basis of their father's educational attainments and use these rather than father's absolute level of schooling as our control measure We could then examine for each age cohort the percentage of sons in the upper (or lower) quintile of fathers' education that fell into some specified quintile of sons' attainments. Although this strategy would eliminate possible biases arising out of the shifting meanings of educational levels over generations, it would obscure the relevance of attainment levels that have had fairly clear implications over time For an example that uses both analytic strategies, see C. Arnold Anderson, "Social Class Differentials in the Schooling of Youth Within the Regions and Community-Size Groups of the United States," *Social Forces*, XXV, No. 4 (May, 1947), 434–40

[10] The exceptional case can, in fact, be accounted for by the marked improvement in high school graduation among the sons of grade school dropouts during the Depression, a time when staying in school was often a wiser decision than entering the labor market.

both social strata and time. As certain levels of education become defined as "basic" to any sort of non-menial employment, the gap in attainment rates between high- and low-status sons diminishes. Simultaneously, however, new and more restrictive sets of criteria become established which also become recognized in time as meaningful alternatives by increasing segments of the population. The rapid rise in college attendance and graduation rates among the sons of college-educated men can be viewed not only as a new momentum in the process of educational diffusion but as the gradual formation of a new educational norm. The extent to which this college gap may level off and even diminish over time depends on the diffusion of this norm throughout all strata of the population.

The discussion of educational attainment has relied up to this point on one method of contrasting the school attainment of children from the "extremes" of American society. Using alternative strategies of analysis would not change the findings or interpretations greatly. If we were to assume that fathers who did not finish grade school have become an atypical[11] group and therefore distort the measurement of "attainment gap," the sons of men who at least reached high school could be set as the "bottom" of the scale instead. Although the size of this new "gap" is always smaller than that shown in Table 2, the patterns of change remain basically the same: The gap decreases over time for high school entrance (7 to 5 per cent) and high school graduation (40 to 23 per cent) but increases over time for college entrance (32 to 50 per cent) and college graduation (19 to 35 per cent).[12]

A closer look at the relative sizes of the original attainment gaps also reveals, however, that the status effects on school completion are less marked at the two extremes of the educational attainment scale (some high school and college graduation) than in the middle completion range. This may be related to ability segregation at the extremes of the scale. Failing to reach high school when high school attendance is viewed as a norm may stem from a definite lack of mental ability. Graduating from college may require very high intelligence irrespective of one's social background. At the intermediate levels of schooling, however, environmental influences operate across an intellectually more heterogeneous population.

This also raises issues concerning the operation of other social influences on educational attainment for which we lack data. We do not know, for example, to what extent the apparent influence of father's education is a proxy for rural-urban differences in the educational composition of the population and in the quality of educational facilities. If limited education is becoming a preponderantly rural (and Southern) phenomenon, then having a poorly educated father may increasingly have meant attending a small town or country school.[13]

[11] Although these men may be "atypical" according to current middle-class educational standards, over a third of the sons in the youngest age group have fathers with less than eight years of schooling.

[12] Another method of estimating percentage differences which minimizes the spurious "floor and ceiling" effects of extreme marginals and emphasizes "relative" rates of change is to compute the percentage of possible increase according to the formula:

$$(pT2 - pT1)/(100.0\% - pT1),$$

where $pT1$ is the percentage "successful" at time 1, and $pT2$ is the percentage "successful" at time 2. The formula shows the percentage of possible improvement that occurred between times 1 and 2. If we were to apply this method to Section A of Table 2, for example, we would find that the sons of men with less than eight years of schooling increased 22.5 out of a possible 39.6 per cent (56.8%), while the sons of college graduates increased 6.6 out of a possible 7.0 per cent (94.3%). Computed on this basis, the rate of improvement increases with father's education in all four sections of this table.

[13] Support for this suggestion can be found in Mary Jean Bowman's "Human Inequalities and Southern Underdevelopment," *Southern Economic Journal*, XXXII, No. 1 (July, 1965), Part II, 73–102; and C. Arnold Anderson's "Inequalities in Schooling in the South," *American Journal of So-*

Another question of relevance is to what extent not finishing grade school has come to reflect a genuine lack of innate mental ability. Since a substantial part of what we know as intelligence is inherited, being the son of a poorly educated man in an educationally expanding society may have come to mean being the son of a man who lacked the mental ability to go very far in school. Inheriting such low ability is in turn bound to handicap a son's chances of completing his schooling, particularly in the absence of positive family attitudes toward education.[14]

CONDITIONAL PROBABILITIES

If we think of the educational system as, in part, a selection process, sorting out people lacking adequate ability, motivation, and opportunity at various points, large-scale attrition affects children from the lower classes earlier. Since our data show that this selection eventually affects children from all social strata, we might find that low-status sons who have demonstrated the ability and motivation to survive the initial stages have a better chance of surviving the final stages than their high-status cohorts whose mettle has yet to be tested. In light of the expansion of secondary and college enrolments, we would also expect these conditional probabilities to increase over time. The validity of this interpretation can be tested by the data in Table 3.

Unlike the percentages in Table 2, the interpretation of these figures changes for different sections of the table. Each cell in Section A of Table 3 shows what percentage of the men in each age and status cohort who got past grade school eventually graduated from high school. Section B shows what percentage of high school graduates had one to three years of college, and Section C shows what percentage of these college entrants received a degree. For example, among the youngest sons with poorly educated fathers, 54 per cent of those who entered high school eventually finished. Of these graduates (Section B), 31 per cent entered college, and 46 per cent of those who entered received a degree (Section C). Once again we see, however, that the conditional probabilities for sons with college-educated fathers are considerably higher at every stage of education: 93, 84, and 67 per cent respectively. Close inspection of the data in all three sections clearly demonstrates in fact that the hypothesis stated in the preceding paragraph is not valid, since in every row of Sections A and B (and for the two youngest cohorts in Section C) the conditional probabilities increase by at least 20 percentage points as father's education improves. The relatively stable percentages in the bottom two rows of Section C suggest that a leveling of life chances during the college years may have occurred prior to World War II but disappeared again recently.

That social background has had an increasing impact on college attendance and graduation over time is suggested by the

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ciology, LX, No. 6 (May, 1955), 547-61. Professor Bowman shows that men with less than eight years of schooling are disproportionately from the South and (within region) from farms. Although her data trace complex generational changes in the educational distribution of males (controlling for region and urbanization), they do not, however, provide controls for father's educational or occupational status at the same time.

[14] Although Eckland's study of over 1,300 college freshmen shows that the correlation between social class background and intelligence is virtually nil, Sewell and Armer's findings on all high school seniors in Wisconsin in 1957 demonstrate that there is some relationship between intelligence and the relative socioeconomic status of one's neighborhood (See Bruce K. Eckland, "Academic Ability, Higher Education, and Occupational Mobility," *American Sociological Review*, XXX, No. 5 [October, 1965], 735-46; and William H. Sewell and J. Michael Armer, "Neighborhood Context and College Plans," *American Sociological Review*, XXXI, No. 2 [April, 1966], 159-68.) Presumably the intelligence-family status correlation would increase as the cohort under study becomes less determined by intellectual selectivity. Although Sewell and Armer do show that the percentage of high-ability boys from low SES neighborhoods with college plans exceeds that of low-ability boys in high SES neighborhoods, the latter are over twice as likely to have college plans as their low SES counterparts.

TABLE 3

CONDITIONAL PROBABILITIES OF RESPONDENTS OBTAINING A GIVEN LEVEL OF EDUCATION BY AGE AND FATHER'S EDUCATION

Son's Age	Father's Education: Less than Eight (%) (1)	Some High School (2)	High School Graduate (3)	Some College or More (4)	Attainment Gap (%) (col. 4− col. 1) (5)	Partial Gammas: Son's Ed.×Father's Ed / Age
	A. Proportion Graduating from High School Among Those Reaching High School					
25–34	53.9 (3,287)*	73.2 (3,795)	86.5 (1,480)	93.0 (1,110)	+39.1	+.530
35–44	52.4 (5,408)	64.2 (3,525)	81.5 (1,247)	93.9 (919)	+41.5	+.317
45–54	45.6 (3,737)	51.8 (2,853)	79.1 (957)	80.2 (690)	+34.6	+.362
55–64 . . .	32.5 (2,611)	39.9 (1,879)	66.6 (585)	79.2 (389)	+46.7	+.407
Partial Gammas: Son's Ed.×Age/F. Ed. .	+.236	+.361	+.269	+.391		.
	B. Proportion With At Least One Year of College Among Those Finishing High School					
25–34	30.9 (1,767)†	39.8 (2,784)	52.4 (2,178)	84.2 (1,032)	+53.3	+.456
35–44	35.0 (3,307)	37.0 (2,262)	56.3 (1,016)	75.9 (862)	+40.9	+.374
45–54	34.1 (1,711)	40.9 (1,474)	43.7 (755)	75.9 (554)	+41.8	+.335
55–64 . .	42.8 (850)	43.6 (750)	53.4 (390)	63.9 (308)	+21.1	+.192
Partial Gammas: Son's Ed.×Age/F. Ed.	−.088	−.024	+.003	+.217		
	C. Proportion Graduating From College Among Those With At Least One Year of College					
25–34	45.7 (562)‡	59.7 (1,115)	56.5 (669)	66.3 (867)	+20.6	+.714
35–44	47.2 (807)	50.0 (936)	55.1 (573)	75.6 (654)	+28.4	+.313
45–54	49.5 (589)	46.4 (601)	43.5 (330)	60.6 (440)	+11.1	+.094
55–64 . . .	64.3 (366)	56.6 (328)	53.9 (208)	58.9 (197)	−5.4	−.094
Partial Gammas: Son's Ed.×Age/F. Ed. . . .	−.145	+.115	+.088	+.071		. .

* Projected number of respondents entering high school expressed in thousands.

† Projected number of respondents graduating from high school expressed in thousands.

‡ Projected number of respondents with at least one year of college expressed in thousands.

magnitude and direction of increase in the partial Gammas between sons' and fathers' education across age cohorts Table 3, col. 6 Since the Gammas in Section B are higher than those in Section C for each age cohort, we can conclude that father's status affects the chances of going from high school to college more than the chances of completing college once you are there. However, in three of the four age cohorts the Gammas in Section A are higher than those in either Sections B or C. This suggests that low family status has been more of a handicap in finishing high school once you got there than in either entering or finishing college.

Although we expect that these conditional probabilities would improve over time for all status groups at each level of education, that is true only for high school graduation. The only status group whose conditional probabilities definitely improve over time for both college entry and graduation is sons of college-educated fathers. The percentage of high school graduates from the top stratum who went on to college increased from 64 to 84 per cent, while the percentage of those college entrants who ultimately received a degree rose from 59 to 76 per cent (for the 35–44-year-olds) but dropped again to 66 per cent for the youngest group.[15] On the other hand, the percentage of high school graduates in the lowest status group who have gone on to college has almost steadily *decreased*.

The opposing attainment trends of the two extreme status categories result in a widening in the college-attendance and college-graduation attainment gaps over time This again supports our earlier conclusion that college aspirations and attainments are becoming mass phenomena very gradually as high-status norms become diffused and assimilated by successively lower strata of the society. The widening of the gap over time for Sections B and C is reflected in the Gammas between son's education and age across status groups. High-status boys have plus Gammas over time (.217 and .017) while their low-status cohorts have reversed (— .088 and — 145).

While boys with low social origins are slowly catching up with their more fortunate counterparts in terms of basic and intermediate levels of education, they are falling relatively farther behind the latter's rapid increase in college attendance and graduation. It appears, then, that, if anything, boys with uneducated fathers have continued to have only limited chances of obtaining the educational credentials necessary for "getting to the top," particularly in comparison to boys whose fathers had already arrived there.

EDUCATIONAL ACHIEVEMENT AND RACE

In view of widespread concern about the plight of the American Negro, it is natural to ask whether the foregoing findings characterize both whites and non whites Do non-white sons go as far in school as white sons when their fathers' education is taken into account?[16] The Bowman data cited earlier tell us that the occupational and economic statuses of men in these education categories differ according to both region and race. Being white and living in the North both improve one's occupational and economic circumstances, given the same number of years of schooling. It follows, then, that the objective circumstances faced by Negro sons in each of these educational status categories tend to be poorer than those of whites.

It is, therefore, not surprising that the

[15] This drop might be explained by two somewhat related phenomena The first is that attending college has been so widely accepted as "the thing to do" by members of the upper middle class that nearly everyone "goes" somewhere regardless of his academic ability, motivation, or desire to finish The second is that many of these boys have the financial resources necessary to prolong their undergraduate careers by taking years off to travel abroad or even work in the family business

[16] Since the number of non-white fathers with either high school or college diplomas was so small that reliable cross-tabulations were impossible it was necessary to collapse the parental status categories, less than 8 years of schooling, and "some high school or more"

data in Table 4 reveal that both race and social status influence educational attainment in all four age cohorts. Since being white and having a better-educated father are both advantages in reaching all levels of schooling, it follows that the sons of white, better-educated fathers have the highest attainment rates. In addition, attainment increases over time (except for four cases, three of which involve the youngest group of non-whites with poorly educated fathers). In an era when high school graduation is almost taken for granted and a bachelor's degree is by no means an exceptional achievement, less than three-fourths of all low-status Negroes

TABLE 4

PERCENTAGE OF SONS OBTAINING A GIVEN LEVEL OF EDUCATION BY AGE, RACE, AND FATHER'S EDUCATION

Son's Age	Father's Education: Less than Eight (%)		Father's Education: Some High School or More (%)	
	Non-White	White	Non-White	White
A. Reaching High School				
25-34	71 6 (684)*	85 2 (3,285)	89 9 (462)	96 5 (6,183)
35-44	60 7 (848)	82 0 (4,751)	72 0 (326)	95 9 (5,684)
45-54	42 3 (752)	74 8 (4,568)	71 3 (215)	93 9 (4,627)
55-64	31 2 (586)	65 0 (3,732)	61 0 (100)	88 1 (3,166)
B. Graduating from High School				
25-34	24 2	48 8	58 2	78 0
35-44	25 1	44 2	46 7	70 1
45-54	18 1	34 4	28 2	58 9
55-64	6 2	21 9	14 0	45 0
C. With Some College				
25-34	6 0	15 7	25 6	41 0
35-44	10 1	15 3	17 8	35 3
45-54	4 7	12 0	17 9	28 7
55-64	2 1	9 5	4 0	22 8
D. Graduating From College				
25-34	1 0	7 7	11 5	25 3
35-44	4 0	7 4	8 9	21 7
45-54	1 9	5 9	5 2	14 6
55-64	1 1	6 2	3 0	12 8

* Projected base N for the percentage expressed in thousands.

reach high school, less than a quarter finish, only 6 per cent enter college, and a mere 1 per cent complete the work necessary for their degrees. This college completion rate is one twenty-fifth that of their white age cohorts with better-educated fathers.

Although these data clearly reflect the social and educational deprivation which Negroes and other racial minorities have endured, during the past two generations social status has come to be a more important determinant of educational achievement than race. Section B of Table 4 shows, for example, that until World War II whites were more likely to finish high school than non-whites, regardless of paternal education. After World War II, having a better-educated father was a clearer advantage than being white, although differences between white and non-whites continued to persist within each education category. During the thirties, the same patterns of stronger status influences became true of entering college, but the stronger impact of race on college graduation persisted into the forties. The influence of paternal education and race on rates of educational attainment is compared in Table 5.

The data in Section A of Table 5 show that the gap between high- and low-status categories has increased for both races

TABLE 5

SUMMARY OF DIFFERENCES IN ATTAINMENT DUE TO FATHER'S EDUCATION AND RACE

A. Percentage Difference between Sons with High School or More Educated Fathers and Sons with Fathers Who Did Not Complete Grade School by Son's Age, Race, and Level of Education (from Table 4)*

Son's Education	Some High School		High School Graduation		Some College		College Graduation	
Age	Non-White	White	Non-White	White	Non-White	White	Non-White	White
25-34	18.3	11.3	34.0	30.0	19.6	25.3	10.5	17.6
35-44	11.3	13.9	21.6	25.9	7.7	20.0	4.9	14.7
45-54	29.0	19.1	10.1	24.4	13.2	16.7	3.3	8.8
55-64	29.8	23.1	7.8	23.1	1.9	13.3	1.9	6.6

B. Percentage Difference between White and Non-White Sons by Age, Level of Education, and Father's Education (from Table 4)†

Son's Education	Some High School		High School Graduation		Some College		College Graduation	
	Father's Education				Father's Education			
Age	Less Than Eight	Some H.S. or More	Less Than Eight	Some H.S. or More	Less Than Eight	Some H.S. or More	Less Than Eight	Some H.S. or More
25-34	13.6	6.6	24.6	19.8	9.7	15.4	6.7	13.8
35-44	21.3	23.9	19.1	23.4	5.2	17.4	3.4	12.8
45-54	32.5	22.6	16.3	30.7	7.3	10.8	4.0	9.4
55-64	33.8	27.1	15.7	31.0	7.4	18.8	5.1	9.8

* A positive percentage difference indicates that sons with high school or more educated fathers have the advantage.

† A positive percentage difference indicates that whites have the advantage.

over time for all levels of son's educational attainment except high school entrance. At this latter level of schooling initially large status differences have diminished generally over time within both races, although the differences among non-whites are generally larger than among whites. In terms of high school graduation and beyond, however, status differences are greater among whites than non-whites. Although this suggests that having a well-educated father is more of an advantage in obtaining a college education if one is white than if he is not, the advantage may be due to the greater percentage of college-educated fathers among whites in the High School or More category than among non-whites.

Nonetheless, these data continue to reflect a pattern of shifting educational norms and opportunities across both racial and status lines that is clearly dominated by the upper strata of white society. Although the realization of norms to attend high school and college has gradually crossed the color line, Negroes from families who have moved into the middle educational strata of American society have apparently not reaped the same occupational and financial benefits from their schooling as their white counterparts have. This may have resulted in a self- as well as socially imposed ceiling on educational aspirations and attainments, particularly in the South. Although the Bowman data also show that having more education has a clear economic payoff for both Negroes and whites in both North and South, the financial advantage that accrues to whites vis-à-vis Negroes appears to increase with education in most age groups. In addition, if we assume that family income has some bearing on son's chances of finishing high school or going to college irrespective of paternal education, the comparatively lower income of moderately well-educated Negroes would itself inhibit the likelihood of son's advancing his schooling, relative occupational and economic returns notwithstanding.

There is also some support for this interpretation in the data pertaining to racial differences within status groups (see Table 5, Section B). There we find that while racial differences in reaching high school are generally higher among low-status sons, the superior educational attainments of whites beyond high school are most evident among high-status boys. This also suggests that race affects attainment at different points in the education cycle for different status groups. Low-status boys have been affected primarily at the fundamental levels, while higher-status non-white boys have labored under what we have called an "aspiration ceiling," even through their college years. The data do show, however, that race has had its largest effect at the early and most basic stages of education, a phenomenon apparently linked primarily to the rural South.

Since we have seen that both race and social status independently affect access to all levels of education, we would probably not be surprised to find that both affect the conditional probabilities of going from one level to another in similar fashion. Because the data are too extensive to present in table form and resemble those in Table 3, we shall mention only salient findings. First, in nearly every case the conditional probabilities for whites are larger than for non-whites. Second, in most cases the probabilities for higher-status respondents exceed those for men from lower origins. Third, for the two youngest age groups the conditional probabilities increase with paternal education at all but the highest education level of sons (as in Table 4); status differences have more effect on school attainment within racial groups than has race within status groups. Fourth, the probabilities of entering and completing high school increase for all four status groups over time (as in Table 3), but (aside from one exception) with entering and finishing college they decrease over time for low-status men of *both* races. This, too, parallels our previous findings. Although the conditional probabilities of entering and completing college remain fairly stable over time for high-status whites, the influence of status

on attainment at all three levels for whites definitely increases over time. Because of the irregular pattern of conditional probabilities among older, high-status non-whites, the overall pattern of differences due to status is similar but not as consistent.

SUMMARY AND CONCLUSIONS

The data in this report have provided an empirical basis for examining a series of issues concerning the patterns of educational mobility and attainment among American males over the past forty years. Contrary to the assumption that the observed increases in high school and college graduation rates during this time have particularly benefited boys from the lower social strata, we found that the *relative* chances of such boys having reached and completed college compared with the sons of college-educated fathers have diminished over time. Paradoxically, while completion rates have continued to rise for all men, the probabilities of going to college, given that you finished high school, and finishing college once you entered, have decreased over time for low-status sons. Basically the same findings appear for each race separately. For nearly every status and age group both the objective and conditional probabilities of reaching given educational levels are higher for whites than for non-whites. There is also considerable evidence that status differences have had an increasingly important effect on post-high school attendance even when race is taken into account. One illustration of these racial and status differences among the youngest age cohort is that 63 per cent of the sons of white college graduates completed college compared with 1 per cent of the non-whites with grade school-educated fathers.

Since these data do not provide controls for either region urbanization, or intelligence of the respondent, it is likely that the patterns we have examined would vary as we introduced additional explanatory variables. Bowman's data help us to suggest (but not demonstrate) that a large part of the depressed attainments of low-status sons (both Negro and white) can be traced to their Southern and/or rural origins. As migration has removed many of the better educated and able from the farm to the city and from the South to the North, restricted educational attainments have tended to center upon those who remain.

At the same time educational upgrading in the advanced sectors of the scale has moved much more rapidly for men from strata in which large amounts of schooling have provided distinctive occupational and economic advantages. As these advantages are perceived as realistic and desirable by members of a given stratum, school completion norms develop. As norms for given attainment levels diffuse throughout the status hierarchy, attainment gaps close. This is apparent from our data in terms of high school attendance and, to some extent, to high school graduation. Accompanying this closure at the high school level, however, is an increasingly large gap in college attendance and completion. Only when the symbolic and utilitarian values of college are recognized by members of the lower strata will their aspirations and rates of attendance rise and the initial gap begin to close. Although the marked expansion of community college facilities may provide one institutional means for closing this gap, the shift from a widening to a diminishing college attendance gap is not likely until high school completion rates for low-status youth increase substantially. While this principle of establishing and diffusing educational attainment norms from the upper strata appears to be valid in terms of high school attendance and graduation, its complete applicability in relation to college graduation at present seem quite uncertain. Whether the creation or realization of college aspirations in more than token proportions will someday reach what begins to look like the "perpetual poor" may seem unlikely on the basis of the increasing attainment gaps evident in these data.

Nonetheless, Davis reminds us that occupational destinations and formal educa-

tion appear to be more closely linked today than forty years ago. To what extent these educational trends may affect subsequent patterns of occupational mobility is not yet certain. What seems likely, however, is that there are apt to be few cases of sharp upward occupational mobility among present-day sons with poorly educated fathers and a possible increase in "status inheritance" within the highest and lowest strata of society. Unless a more concerted effort is made to create and stimulate more meaningful opportunities for the people caugh in the bottom strata, however, what now seems like a paradox is likely to evolve into a social dilemma which neither indifference hostility, nor legislative reaction will be able to ameliorate. The urban riots and destruction of recent summers strongly indicate, in fact, that this dilemma may already be upon us.

HARVARD UNIVERSITY

Path Consistency in Directed Graphs and Social Structure[1]

Dorrian Apple Sweetser

ABSTRACT

Internal order, or congruity of relationships, affects whether a social structure can exist and be effective. It should be possible to state "rules of combination" to describe internal order. The specific structures investigated are triadic kinship structures. Directed graphs provide a suitable, content-free means for stating rules of combination. Erroneous applications of the theory of balance in signed digraphs to kinship ties are pointed out. A rule of combination is formulated called "consistency of point-disjoint paths," which applies to the distribution of authority and respect, and conversely of informality, in kinship structures. The rule is used to generate a successful prediction of the relations of mother's brother, mother, and ego. The effect of path consistency on the holders of positions, and the bearing this has on order, are discussed.

Social structure is defined here as the form taken by persisting sets of relationships in groups. The kind of social structure considered in detail is kinship structure, and the data used concern the distribution of authority.

The elements of structure are positions and relationships between positions. A "position" is distinguished from transient ties by virtue of the fact that positions endure, though the holders change. A relationship is considered to be present between two positions if each has rights and obligations specifically involving the other and if there is a certain minimum amount of interaction between the positions.

The major hypothesis of structural theory is that structures are not free to vary indefinitely, either as to number of positions or as to the distribution or content of the relationships. For example, some structures appear to operate smoothly, while others are inefficient and vulnerable. Or, in surveying the structures of a sample of groups of a certain kind, it will be found that one kind of structure is present while others which are hypothetically possible are in fact rare, or absent. Following Homans, it is convenient to look for constraints on structural variability in either the group's task and environment, or internally.[2] In this paper, only internal constraints will be investigated, specifically the compatibility of the content of relationships.

RULES OF COMBINATION

This internal order, this combinatorial aspect of social structure, is so much taken for granted in sociology that it is almost a truism. However, far from being a commonplace, the combinatorial aspect of social structure is something which at present we know very little about. We cannot state the *rules of combination* which produce order in multiple relationships in an abstract, content-free way which would allow them to be tested over a wide range of diverse structures.

For this task, an abstract, content-free notational and mathematical system suited

[1] An earlier version of some of these ideas appeared in "Cross-National Study of Kinship Ties: Theoretical and Methodological Problems" (paper presented at the 6th World Congress of Sociology, Evian, France, September 10, 1966). The work was supported in part by a National Science Foundation grant entitled "Family Interaction and Ecology." Cross-cultural data on the mother's brother's role used in the paper were collected under a grant-in-aid of research from the Social Science Research Council. I have recently learned that James A. Davis, in an unpublished paper, has independently used the term "path consistency" to refer to consistency of direct and indirect links in interpersonal triangles.

[2] George C. Homans, *The Human Group* (New York: Harcourt, Brace & Co., 1950).

to the representation of structure is essential. Directed graphs, or digraphs, fit the requirements.[3] The elements of digraphs are points and directed lines. Digraphs can represent the simultaneous relations among a number of positions. They can depict compound roles, in which different relations emanate from one position. Such compound roles are common in social structure and are probably crucial to its order. Furthermore, they can be used when data on relationships are in the form of nominal or ordinal scales, as well as interval scales.

BALANCE IN KINSHIP STRUCTURES

Heider's theory of cognitive balance, which has been formalized in terms of signed digraphs by Harary, Norman, and Cartwright, is an example of what is called in this paper a rule of combination, that is, an abstract statement of workable, orderly combinations of qualities in relationships.[4] In Heider's theory, a triad is said to be balanced if all relationships are positive or if two are negative. Thus, if we take the point of view of person A, and if A likes B, B likes X, and A likes X, the situation is balanced. On the other hand, if A likes B, B dislikes X, and A likes X, the situation is unbalanced. A is prompted by the resulting tension to change his orientation toward X or toward B. In the formalization of this theory by Harary, Norman, and Cartwright, the idea of balance is generalized so that it can be applied to more than three relationships; they have also provided several ways of calculating the extent to which balance is present.

Berger, Cohen, Snell, and Zelditch[5] and Davis[6] reviewed the findings of a number of studies to ascertain whether the theory of balance was relevant. Their surveys indicate that balance is relevant to the distribution of and changes in likes and dislikes in fluid group situations, such as clique formation.

Freilich[7] and Flament[8] have endeavored to use the theory of balance in signed digraphs to state certain observations about the distribution of authority and closeness in kinship structures. For example, both writers have dealt with the presumed opposition between the relationship of a male ego with his mother's brother and the relationship of ego with his father: where the mother's brother is a figure of authority who is respected, the father has been said to be a friendly counselor and confidant, and where the mother's brother is the counselor and confidant, the father is the authority figure.

As will be noted later in this paper, the notion that these particular roles are indeed contrasting is not supported by the evidence. However, a more fundamental defect in Freilich's and Flament's use of balance theory is that the relationships to which they endeavor to apply it violate a major requirement of balance theory, namely, that the qualities designated by plus and minus must be true opposites, not merely a pair of distinctive states.[9] Like and dislike, love and hate, are opposite qualities in that they are intrinsically contrasting; respect and informality, or authority and closeness, are not. Liking is a cohesive quality; dislike a divisive quality; and the fundamental idea in balance theory is that of alignment and cleavage. Respect

[3] Frank Harary, Robert Z. Norman, and Dorwin Cartwright, *Structural Models: An Introduction to the Theory of Directed Graphs* (New York: John Wiley & Sons, 1965). See also Joseph Berger, Bernard P. Cohen, J. Laurie Snell, and Morris Zelditch, Jr., *Types of Formalization in Small Group Research* (Boston: Houghton Mifflin Co, 1962), ch. ii.

[4] Harary *et al.*, *op. cit.* (n. 3), chap. xiii.

[5] Berger *et al.*, *op. cit.* (n. 3).

[6] James A. Davis, "Structural Balance, Mechanical Solidarity, and Interpersonal Relations," *American Journal of Sociology*, LXVIII (January, 1963), 444–62.

[7] Morris Freilich, "The Natural Triad in Kinship and Complex Systems," *American Sociological Review*, XXIX (August, 1964), 529–40.

[8] Claude Flament, *Applications of Graph Theory to Group Structure* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963), 125–26.

[9] Berger *et al.*, *op. cit.* (n. 3), p 26; Harary *et al.*, *op. cit.* (n. 3), pp. 339–40.

and informality pertain to a different mode of differentiation in structures.

Freilich describes a "natural triad" in kinship structures and other group situations which consists of three roles, one of which is on a lower level of status than the other two. Instances he cites of triads in kinship structure are father-mother's brother-ego; father's sister-mother and mother's sister-ego; and ego and the two sets of grandparents. One of the high-status roles has legitimate authority over the lowest role, and "the dominant type of sentiment in the relationship [is] *negative*."[10] In the relation of the other high-status role to the lowest role, the status differences are minimized and the sentiment is positive.

Freilich then applies the theory of balance to these triads and points out that if they are balanced, then either there must be no relation between the two high-status positions, or the relation must be negative. Actually, there is no evidence of a relationship in the studies he cites. In discussing the possible unbalanced situation in which the relation between the two high-status positions is positive, he reasons that if one of the relations were to change so that the triad were balanced, "the natural triad becomes a basically different form. . . . We may therefore expect the system to set up barriers to change.' "[11] On this and other grounds he arrives at the conclusion that sociocultural systems are usually unbalanced.

The writer produced the study of grandparents cited by Freilich,[12] and has also carried out a cross-cultural study of the role of the mother's brother. The cross-cultural data on these relationships support the idea that *if* distinctively warm and positive relations exist, they will be located on the side where there is less or no authority. However, the cross-cultural data definitely contradict Freilich's statement that the relations on the other side are negative, in the way required if the idea of balance is to be applied. The opposite of positive feelings would be something like antagonism or dislike, but all that the ethnographic reports show is that respect or formality is manifested by the low-status person toward the high-status person who has authority over him.

The same difficulty exists in Flament's restatement in terms of balanced digraphs of some of Lévi-Strauss' remarks about the quartet of father, mother's brother, mother, and ego.[13] Lévi-Strauss contrasted the relations of ego with father and with mother's brother as involving, on the one hand, authority and respect and, on the other, familiarity and tenderness; on one hand "free and familiar" relations, on the other "hostility, antagonism, or reserve."[14] Flament's translation of these remarks into balanced digraphs assumes that authority always provokes openly negative feelings, and the cases that Lévi-Strauss cites do not meet this requirement.

AUTHORITY AND PATH CONSISTENCY

It appears that, while the theory of balance may correctly describe the formation of alliances and cleavages in fluid, nonhierarchical situations, it is not suited to the description of alignments in hierarchical situations involving legitimate authority. In particular, it is unsuited to the rather broad array of data on kinship structures which are differentiated along lines of respect and informality.

To account for the distribution of authority in such triads, a rule of combination called "consistency of point-disjoint paths" is proposed: A triad is path-consistent if the point-disjoint paths between any lowest point and any next higher superior point are consistent. The role is meant to apply to complete triads, that is, to triads in which all possible relations between positions occur.

[10] Freilich, *op. cit.* (n. 7), p. 531.

[11] *Ibid.*, p. 537.

[12] Dorrian Apple, "The Social Structure of Grandparenthood," *American Anthropologist*, LVIII (August, 1956), 656–63.

[13] Flament, *op. cit.* (n. 8).

[14] Claude Lévi-Strauss, *Structural Anthropology* (New York: Basic Books, Inc., 1963), pp. 41, 44

Some definitions are in order. Two different paths in a digraph are point-disjoint if the only points they have in common are those at the beginning and the end.[15] Thus, between any two points in a complete triad, there is a pair of point-disjoint paths, since there are both a direct line between them and a line going by way of the third point. A point is superior to another if it represents a position with authority over the other. The rule recognizes three modes of relationship between a pair of positions: superior; its reverse, inferior; and neutral, that is, a relation involving neither superiority nor inferiority.

The height of a point is defined in terms of its outdegree of authority relations; in a triad, a position may have authority over two other positions, one other, or none. Thus, the outdegree of a point may be 2, 1, or 0. Two, or all three, points in a triad may have the same outdegree of authority relations. A lowest point is one whose outdegree is not higher than that of any other point. A next higher superior point is one which has authority over the lowest point and whose outdegree ranks just above that of the lowest point.

The rule states that the direct path between the two points specified will be consistent with the point-disjoint path. "Consistent" means that the third point in the triad will be superior to both or to neither. In other words, the third point will not be superior to one of the pair but not to the other.

Among the possible triads with at least one relationship of superiority-inferiority, there are thus three path-consistent forms: (1) B is superior to C, and A is superior to both B and C, (2) B is superior to C, and A has a "neutral" (non-authoritative) relation to both B and C, and (3) B is superior to C and also to A, while A and C have a neutral relation.

The remainder of this paper deals mostly with the first two of these triads. They can be summarized by stating that positions connected by a two-step authority path will also be connected by a direct authority path, while a position that is neutrally related to another position which is superior to a third will also be neutrally related to the third.

These triads can be illustrated with cross-cultural data. Previous research produced evidence that, instead of the grandparent-grandchild relationship being universally close and warm, as had been previously assumed, this kind of relationship only appeared when grandparents no longer exercised authority over the parental generation.[16] In all cases parents had authority over children. Nearly all the cases fell into one of two types: either the grandparents had authority over both of the other kinship positions, or over neither. Very few societies were found in which grandparents had authority over one position but not over the other. In other words, the common triads observed were those in which the point-disjoint paths between low and high positions did not carry contradictory information about the status of the three positions.

The idea of path consistency is also illustrated by the change in the role of women in societies such as Japan, in which an extended family is giving way to some extent to independent nuclear families.[17] Where the husband is dominated by the claims of the family, and the husband dominates the wife, it is no surprise to find the wife is also dominated by her mother-in-law. When the claims of the family on the husband lessen, there appears to be a move toward more equality in the husband-wife relationship and at the same time a less submissive attitude on the part of the wife toward her mother-in-law. Path consistency is relevant here on the grounds that the domination of the wife by her mother-in-law is consistent with the family's domination of the husband, and when the latter weakens, so does the former.

Another illustration of path consistency

[15] Harary *et al.*, *op cit.* (n 3), p. 244–45.

[16] Apple, *op. cit.* (n. 12).

[17] R P Dore, *City Life in Japan* (Berkeley: University of California Press, 1963), p. 157.

is Stephens' report from a cross-cultural sample that if adult sons must defer to fathers, wives must likewise defer to husbands.[18] The two "deference" scales were positively, though moderately, correlated. Since mothers usually did not receive deference from adult sons, this illustration appears to fit the third path-consistent triad, that in which B is superior to both C and A, while C and A have a neutral relationship.

PATH CONSISTENCY: A PREDICTION

If structures follow rules of combination, and if consistency of point-disjoint paths is such a rule of combination, then in a sample of a given kind of triad, structures with path consistency ought to be considerably more common than those without path consistency. Furthermore, it should be possible to predict how one relationship will vary with another. Accordingly, once the notion of path consistency had been formulated, its usefulness was tested by deducing and then testing an empirical prediction about kinship structures. At the time the test was made, the rule was less developed and stated that, in a hierarchical triad, all point-disjoint paths between two points are equivalent, in that each conveys the same effect or influence.[19] The prediction has to do with the role of the mother's brother in kinship structures.

Until recently, all explanatory discussion of the relationship of this often-important relative toward his sister's son have been simply elaborations of Radcliffe-Brown's original statement.[20] He described the role in terms of its contrast with that of the father in certain African societies: Where the mother's brother played a close and indulgent "male mother" role with his sister's son, the father wielded family authority and the son behaved respectfully toward him; and where the mother's brother had authority, the father was close. This contrast has been elaborated into a general explanatory principle to explain the mother's brother's relationship to his sister's son by Homans,[21] Homans and Schneider,[22] and Lévi-Strauss.[23] According to their explanation, there is an inherent contrast in the roles of father and mother's brother toward the son: If the mother's brother is an authoritative, respected relative, the father will be close; if the former is close, the latter will be the authority figure.

Curiously, this fundamental assumption of contrast in these masculine roles, on which such elaborate chains of reasoning about family relations have been based, has only recently been subjected to cross-cultural test, and the test does not confirm it. Evidence has been presented that there are a substantial number of societies in which both the father and mother's brother have authority, though in different areas, over boys.[24] Three categories rather than two seem to be needed for the mother's brother's role: authoritative (*avunculi potestas*), indulgent, and a new category called "respected and responsible." Thus it is impossible to predict this role on the basis of a contrast with that of the father.

If the role of the mother's brother toward ego can vary independently from that of the father, with what, then, is it associated? If path consistency is a valid rule of com-

[18] William N. Stephens, *The Family in Cross-Cultural Perspective* (New York: Holt, Rinehart & Winston, Inc., 1963), p. 327.

[19] "Cross National Study of Kinship Ties," *op. cit.* (n. 1).

[20] A. R. Radcliffe-Brown, "The Mother's Brother in South Africa," *South African Journal of Science*, XXI (1924), 542-55.

[21] Homans, *op. cit.* (n. 2), pp. 252-59.

[22] George C. Homans and David M. Schneider, *Marriage, Authority, and Final Causes: A Study of Unilateral Cross Cousin Marriage* (Glencoe, Ill.: Free Press, 1955), pp. 57-59.

[23] Lévi-Strauss, *op. cit.* (n. 14).

[24] Dorrian Apple Sweetser, "On the Incompatibility of Duty and Affection: A Note on the Role of the Mother's Brother," *American Anthropologist*, LXVIII (August, 1966), 1009-13. "Mother's brother" is not a distinctive position in all societies, and this report also describes the conditions under which there will be a distinctive position for this relative.

bination in this situation, then the role of the mother's brother toward the son ought to vary with that of the mother's brother toward the mother. (Lévi-Strauss makes the same prediction but in connection with the erroneous idea that the father-son and mother's brother-son relationships will always be contrasting.) Assuming that the mother is to some degree superior to the boy, then if the mother's brother has some authority over the boy, one would expect him to have some authority over the mother. If he has none over the son, being close and indulgent, he should have no authority over the mother.

Data from the "Ethnographic Atlas" were used to test this hypothesis.[25] Matrilocal societies, or those with only matrilineal kin groups, would not allow an unbiased test of the hypothesis, since it is already known that in such societies the mother's brother is likely to have some responsibility for his sister and her household and also to be an authority figure for the boy. Consequently, the hypothesis was tested only with data from patrilocal societies with patrilineal kin groups.

The "Ethnographic Atlas" includes four variables which reflect some continuing, practical, instrumental interest in the mother after her marriage on the part of her family, thus requiring a kind of supervisory interest on the part of the mother's brother and, by inference, some authority over the mother. These variables are:

1. The custom of bride-price or bride-service. These substantial material considerations are not only a recompense to the bride's family but also put a premium on her satisfactory performance as a wife, lest repayment be required (as is the rule in some instances) or the marriage be disrupted before the payment or service is complete.

2. The type of residential family group, whether a large extended family, a small extended family, or independent nuclear family. It is assumed here that in the former case the new household is, so to speak, totally immersed in the husband's kin group, while in the latter two there is more chance for the wife's family to be important.

3. Preferential marriage with the mother's brother's daughter. This custom must encourage an instrumental interest in the mother and her son on the part of the mother's family.

4. The presence of matrilineal kin groups in addition to patrilineal kin groups. When such groups are present, the wife's kin have an added formal importance for the wife and her children.

In the patrilocal societies with patrilineal kin groups, these four items were found to form a Guttman scale, with a reproducibility of .92. Error types were assigned to scale types by Ford's method.[26]

Table 1 lists the societies in the sample, classified by the degree of supervisory interest of the mother's brother and by the type of relationship between mother's brother and ego. The Mann-Whitney *U*-test, one-tailed, corrected for ties, when applied to these data rejected the null hypothesis at less than the .01 level. Since the idea of path consistency in hierarchical structures had thus led to a successful prediction, the likelihood is enhanced that it is indeed a rule of combination.

DISCUSSION

Essentially, the combinatorial rule of path consistency means that a person in a certain position presents the same face to persons in different positions and that this

[25] George P. Murdock, "Ethnographic Atlas," *Ethnology*, I (January, 1962), 113–34, and subsequent issues. The selection of the sample of societies is described in Dorrian Apple Sweetser, "Avoidance, Social Affiliation, and the Incest Taboo," *Ethnology*, V (July, 1966), 304–16. See also Sweetser, "On the Incompatibility of Duty and Affection," *op. cit.* (n. 24).

[26] Matilda White Riley, John W. Riley Jr., and Jackson Toby, *Sociological Studies in Scale Analysis* (New Brunswick, N.J.: Rutgers University Press, 1954), pp. 290–91).

is necessary for order in social structure. Although path consistency has been tested only in relation to hierarchical structure, it may be that it applies to other modes of relationship as well.

Path consistency has been presented as a rule of combination, that is, as a specification of combinations of relationships which possess internal order or structural congruity, which are workable, in other words. Put people into a set of positions which have internal order, and they carry out the duties of the positions; put them into a set of positions which lack internal order, and the structure changes in the direction of order, or falls apart.

This raises the question of what path consistency does for the holders of positions in a structure. First, it may prevent a kind of cognitive confusion about authority. Such confusion would doubtless exist if different images, so to speak, of the holders of positions came over the different lines of relationship.

Second, it may help to preserve the status of higher positions. If one of the connections of the lower position to the higher were less demanding or more rewarding, it might lead to efforts on the part of the subordinate to subvert the other connection. Or, if there were more than one position with the same outdegree of authority, there is an occasion for conflict.

Third, the interest of the linking position may be involved in how the highest and lowest points are connected. The fact that there exists a pair of point-disjoint paths between two points means by definition that at least one other position is intimately involved in the connection between the two points.

Nadel proposed that what he called the "triadization of relationships" was the 'crucial juncture in the coherence and orderliness of social structures.'[27] Triadization comes about when a dyadic relationship is of interest to third parties, and this in turn may come about in several ways. Path consistency appears to be one of these ways.

TABLE 1

DEGREE OF SUPERVISORY INTEREST OF MOTHER'S BROTHER TOWARD SISTER, BY TYPE OF RELATIONSHIP BETWEEN MOTHER'S BROTHER AND SISTER'S SON, IN TWENTY-NINE PATRILOCAL SOCIETIES WITH PATRILINEAL KIN GROUPS

Degree of Supervisory Interest	Relationship of Mother's Brother to Son	
	Respected*	Close
4	Mbundu	
	Murngin	
3	Albanians	Lolo
	Araucanians	
	Lovedu	
	Mende	
2	Chagga	Azande
	Ganda	Coorg
	Ila	Fang
	Monguor	Kapauku
		Luo
		Nama Hottentot
		Nuer
		Orokaiva
		Shilluk
		Siwai
		Tallensi
		Tikopia
		Wolof
1		Mongo
		Thonga
0	Toda	Tiv
		Wogeo

* All but one of these is the "respected and responsible" type, one (Ila) is the avuncular potestas type.

BOSTON UNIVERSITY
SCHOOL OF NURSING
AND
GRADUATE SCHOOL

[27] S. F. Nadel, *The Theory of Social Structure* (Glencoe, Ill.: Free Press, 1957), pp. 86-87.

Social and Cultural Pluralism as a Concept in Social System Analysis[1]

Marie R. Haug

ABSTRACT

Cultural pluralism as an analytic concept is explored through re-analysis of *A Cross Polity Survey* data on 114 world polities. An Index of Pluralism is devised, utilizing various measures of cultural differences. Degree of pluralism is found to have a linear relationship with a series of demographic, communication, economic, and political variables. Large geographic size and a thinly scattered and illiterate population are related to pluralism level as a dependent variable, whereas pluralism in turn has consequences for low per capita GNP and political instability. The relationship of pluralism to these structural variables argues for its conceptual value in social system analysis.

Cultural pluralism has in recent years commanded the attention of a number of sociologists and anthropologists concerned with the relationship of diverse groups within a particular society. Following the formulation of the concept by J. S. Furnival some decades ago,[2] various attempts have been made to specify the nature of a "plural society" and determine appropriate theoretical and empirical referents.[3]

The term "pluralism" has been used in political science to describe an "open society" in which individuals and groups have political freedom and may safely express disparate views and bring diverse pressures to bear on government. This definition is irrelevant to the issues being debated in sociology and anthropology, although it is sometimes confused with them. Our attention is on the interrelationships between groups which are distinct by virtue of cultural or other differences, and which yet are combined in some fashion in a societal system.

This theoretical concern is by no means new, being essentially a restatement in contemporary terms of a long-standing problem: the adequate explanation of social system integration in the face of individual and group diversity.

In Furnival's original formulation, a plural society consisted of sharply differentiated cultural groups bound together chiefly by a common economic link, the market. His model was the colonial system, a setting in which he worked as an economist. M. G. Smith, on the other hand, has suggested that cultural variations are not a sufficient condition for pluralism, since such variations could describe a merely heterogeneous society. To Smith, a plural society must contain differences among cultural groups in their basic institutions, such as "kinship, education, religion, property and economy, recreation and certain sodalities."[4] Further, such differences should produce incompatibility, with the society held together only by power concentrated in the hands of one cultural section.

To this, Braithwaite counters that "every

[1] The assistance of Richard Schermerhorn and Leo A. Despres in the preparation of this paper is gratefully acknowledged.

[2] J. S. Furnival, *Colonial Policy and Practice* (London: Cambridge University Press, 1948).

[3] See, e.g., M. G. Smith, "Social and Cultural Pluralism," *Annals of the New York Academy of Sciences*, LXXXIII (January, 1957), 763–77; Charles Wagley, "Discussion of M. G. Smith's Paper," *Annals of the New York Academy of Sciences*, LXXXIII (January, 1957), 779; Pierre Van den Berghe, "Toward a Sociology of Africa," in Van den Berghe (ed.), *Africa, Social Problems of Change and Conflict* (San Francisco. Chandler Publishing Co., 1965).

[4] Smith, *op. cit.*, p. 769.

society has pluralistic aspects,"[5] charging Smith with underrating normative integration as the crucial variable in social system analysis. In effect, Braithwaite concludes that pluralism is but another form of social stratification and thus hardly worth considering as a critical differentiating characteristic between societies.

Implicit in these discussions is the unresolved question of whether pluralism is a total condition which either characterizes a society or does not; or, alternatively, is a matter of degree, as Van den Berghe claims,[6] permitting societies to be ranged along some scale of pluralism.

Thus the pluralism controversy concerns the appropriate conditions for specifying a society as plural, whether pluralism is a dichotomous or continuous variable, the nature of the integrative mechanism which explains cohesion in a plural society, and indeed whether cultural pluralism is a useful concept in system analysis at all.

The resolution of some of these issues might be advanced if there were some systematic collection and examination of cross-cultural data, in a study specifically addressed to uncovering the characteristics and dynamics of plural societies. Unfortunately, no such research is presently on the horizon. However, data in a recent volume by Banks and Textor[7] offer a temporary substitute, and have been reanalyzed for tentative answers to two questions: (1) Can societies be allocated to varying levels of pluralism, and, if so, (2) are there systematic differences among such societies in critical structural variables? Positive answers will imply that pluralism is a meaningful concept which should be taken into account in social system analysis.

Before tackling these problems, however, some brief comments are in order on the nature of the data in Banks and Textor. *A Cross Polity Survey* is a volume consisting of 118 pages of explanatory material and some 1,260 pages of computer printout, showing the relationship between 57 variables for a total universe of the 115 independent polities in the world as of 1963.[8]

The authors state candidly that "the printout does not represent any theory,"[9] claiming that the purpose is to generate rather than to test hypotheses. The disclaimer of theory, of course, is not completely true The choice of variables for consideration in the analysis, for example, is based on political assumptions and leans heavily on Gabriel Almond's concepts, such as political enculturation, interest aggregation by various types of groups, and the like.[10] Two-thirds of the variables selected are in the political dimension, with the remainder in the areas of demography, economics, and communications. Only three variables are sociological: homogeneity of language, religion, and race, with language differences selected by the authors as the sole measure of cultural variations In addition, the selection of categories within variables, and the "coding" of polities into categories, are determined, in the authors' own words, by "the more or less value-laden distinctions of Western political science."[11]

Further, the decision to include only *independent* nations eliminates areas still in the process of freeing themselves from colonial or external rule The result is the exclusion of Guiana and Zanzibar but the inclusion of Luxembourg in the analysis. Unfortunately for the purposes of this

[5] Lloyd Braithwaite, "Social Stratification and Cultural Pluralism," *Annals of the New York Academy of Sciences*, LXXXIII (January, 1957), 821

[6] Van den Berghe, *op cit*

[7] Arthur S Banks and Robert B Textor, *A Cross Polity Survey* (Cambridge, Mass M I T Press, 1963)

[8] However, some data coded were compiled at an earlier date, chiefly in the period 1960 62

[9] Banks and Textor, *op cit* p 11

[10] Gabriel A Almond, "A Functional Approach to Comparative Politics," in Gabriel A Almond and James S Coleman (eds) *The Politics of the Developing Areas* (Princeton, N J Princeton University Press, 1960)

[11] Banks and Textor, *op cit* p 83

paper, a number of colonial areas which would undoubtedly be in the plural category are left out as a result.

Notwithstanding these various shortcomings and caveats, it was possible to rework the *Survey* data for the purposes of this paper, by referring to the original coding values assigned to each polity for each of the fifty-seven variables. This raw material, rather than the some 9,000 tables of association printed out in the text, forms the sole basis for the analysis now described.

METHOD

As a measure of the pluralism level of each polity, relevant variables were combined into an Index of Pluralism. Unfortunately, only five of the fifty-seven variables available qualified as indicators of pluralism for inclusion in the Index.

No. 18. *Language:* Linguistic heterogeneity is the only measure of cultural diversity in the *Survey*, according to the authors, and as such offers the chief available clue to cultural differences.

No. 17. *Race:* This variable is included on the grounds that racial differences where they occur may exacerbate cultural variations, or that cultural differences may grow up around racial cleavages.

TABLE 1

ASSOCIATION BETWEEN VARIABLES INCLUDED IN THE INDEX OF PLURALISM: YULES Q AND LEVEL OF STATISTICAL SIGNIFICANCE*

Variables	Language	Race	Religion	Sectionalism	Non-associational Groups
Language		$Q = -03$ $p < .95$	$Q = 57$ $p = 002$	$Q = 71$ $p < 001$	$Q = 73$ $p < 001$
Race			$Q = 23$ $p < 30$	$Q = 13$ $p < 70$	$Q = 24$ $p < 30$
Religion . . .				$Q = .45$ $p = 025$	$Q = 49$ $p = 01$
Sectionalism					$Q = 58$ $p = .004$

* Yules Q is a measure of strength of association in the 2×2 case. Q values and significance levels have been calculated from Banks and Textor, *op. cit.*, unpaged computer printout. This contains tables and probability values only where such values are at the 15 level or less. Thus calculations in other instances are from raw data also available in the unpaged printout.

No. 16. *Religion:* Religious institutions are among the basic collectivities cited by Smith as resulting in pluralism if incompatible institutional differences exist, and thus this variable is included, although it concerns differences only, not incompatibilities.

No. 32. *Sectionalism:* The *Survey* authors describe this variable as geographical, but indicate it may reflect elements of communalism or tribalism, and it is thus included as a possible measure of cultural diversity in an additional dimension

No. 35. *Interest Articulation by Non-associational Groups:* Kinship, lineage, ethnic, regional, and religious groups are included in the non-associational category; to the extent these are involved in political life, there is an indication of salient cultural differences along still another institutional dimension.

The pattern of interrelationship between these variables is available in the *Survey* and shows that racial heterogeneity is the only one not associated at the .05 level of significance with any other (see Table 1). Race thus emerges as a unique dimension, while the other variables appear to form a cluster. The associations are moderate to strong and in a positive direction, as measured by Yules Q; that is, heterogeneity in religion or language, more extreme

sectionalism, and more frequent interest articulation by non-associational groups tend to occur jointly.

Construction of the Index from these elements was limited by the original coding categories. As a best approximation, a simple arithmetic summation was used, with numerical values assigned as shown in Table 2. This scheme gives greater weight in the Index of Pluralism to language, sectionalism, and interest articulation by non-associational groups than to race and religion. This outcome is partly a consequence of the insufficient differentiation of the race and religion variables, since categories of extreme heterogeneity are not specified. However, the fact that religious differences rather than incompatibilities have been coded, as well as the fact that racial variation may well be only indirectly related to pluralism, justifies the lesser weight. In any event, the Index is intended only as a heuristic device to estimate pluralism levels, with no claim made to precision.

By summing the appropriate numerical values assigned to each polity, a scale with a theoretical range from 0 (non-plural) to 8 (highly plural) is possible. A polity with a score of 0 is homogeneous in language, race, and religion, has minimum sectional sentiment, and negligible or limited interest articulation by kinship, ethnic, or other non-associational groups. On the other hand, a score of 8 indicates a polity which is heterogeneous in language, race, and religion, with extreme sectional feelings and significant interest articulation by non-associational groups.

TABLE 2

PLURALISM INDEX CONSTRUCTION

Variable	Coding Category	Numerical Value
Language	A. Homogeneous (majority of 85% or more, no significant single minority)	0
	B. Weakly heterogeneous (majority of 85% or more, significant minority of 15% or less)	1
	C. Strongly heterogeneous (no single group of 85% or more)	2
Race	A Homogeneous (90% or more of one race)	0
	B Heterogeneous (less than 90% of one race)	1
Religion	A. Homogeneous (80 to 85% predominance of one religion)	0
	B Heterogeneous (no religion 80 to 85% pre dominant)*	1
Sectionalism	A Extreme (one or more groups with extreme sectional feeling)	2
	B. Moderate (one group with strong sectional feeling or several with moderate sectional feeling)	1
	C Negligible (no significant sectional feeling)	0
Interest articulation by non associational groups	A. Significant†	2
	B. Moderate	1
	C Limited	0
	D Negligible	0

* The *Survey* gives no criterion for selecting 80 or 85% in a particular case.

† The *Survey* gives no criterion for defining these categories. It was necessary to allocate these four levels to three score values (2,1,0) in order to avoid giving extra weight to this variable. In the absence of other guidelines, "negligible" was combined with "limited," since both seem to define low pluralism level. Further, only eight polities were coded "negligible."

All but one of the 115 polities in the *Survey* were assigned a pluralism level, the sole omission being Mainland China, for

which data were missing for two Index factors. Contingency tables were then prepared, comparing level of pluralism with a series of sixteen demographic, communication, economic, and political variables, selected from the fifty-two remaining after the five used for the Index were deducted.

With an eye to parsimony, the basis for including variables for analysis was saliency and a minimum of purely judgmental coding. Thus from the six demographic factors available in the *Survey*, only one, the geographic location of the polity, was omitted as irrelevant. Of the five economic variables available, two were selected as salient: the proportion of the population in agriculture, and per capita gross national product. From the three communications variables in the *Survey*, only one (level of freedom of the press) was omitted as somewhat judgmental. The thirty-five variables remaining are all political; without listing all the omissions, suffice it to say that seven were selected for analysis as most relevant.

Since the level of measurement of several of these variables is not on an interval scale, the non-parametric χ^2 statistic is used. However, since all variables are at least ordinal, it is possible to partition χ^2 into that proportion due to linear regression, that is, a linear relationship between pluralism and the other variables considered.[12] This makes it feasible to estimate the extent to which increasing levels of pluralism are associated with varying levels of the demographic, economic, communications, and political variables under review. The small total number (114 polities) made it impossible to use all nine levels of pluralism in analysis because of small theoretical cell frequencies. Accordingly, four pluralism levels were formed: scores of 0 and 1 were combined as negligible pluralism, 2 and 3 were grouped a[s] moderate pluralism, 4 and 5 were co[n]sidered as marked pluralism, wherea[s] scores of 6, 7, and 8 identified an extrem[e] pluralism category.

FINDINGS

Scoring the polities on the Index o[f] Pluralism produced a distribution rangin[g] from seventeen nations with a 0 score t[o] only one with an 8 score (see Table 3). The distribution is tri-modal, showing a tendency to polarization at 0, 2, and 6 on the pluralism scale. The assignment of polities is not entirely satisfactory. The inclusion of the United Arab Republic, for example, in the non-plural category seems questionable. Placing Tanganyika (now Tanzania) in the same level with Belgium with a pluralism score of 5 is equally so. However, even assuming the presence of these and other errors, the resulting distribution is sufficiently suggestive to warrant pursuing the second question at issue, the relationship of pluralism level as measured by the Index with the demographic, economic, communication, and political variables selected for their structural implications.

In examining the association between pluralism and these structural variables, a decision must be made whether to consider pluralism as an independent or a dependent variable. For the purposes of this analysis, pluralism level is considered dependent with respect to the demographic and communication factors. The implication is that such matters as urbanization and literacy have consequences for the degree of pluralistic differentiation within a polity. Conversely, however, pluralism is considered to have consequences *for* economic and political conditions within a polity, and thus with regard to these variables it is considered as independent.[13] Although switching

[12] Albert E. Maxwell, *Analysing Qualitative Data* (New York: John Wiley & Sons, 1961), pp. 65–68. The formula for the portion of χ^2 due to linear regression is b^2yx/s^2_{byx}, with one degree of freedom This partitioning of χ^2 is identical whether b_{yx} or b_{xy} is used.

[13] The χ^2 statistic does not vary according to the positioning of pluralism as dependent or independent because it is unaffected by differences between b_{yx} and b_{xy}. In a practical sense, the

TABLE 3

DISTRIBUTION OF 114* WORLD POLITIES BY "INDEX OF PLURALISM"

INDEX OF PLURALISM SCORE

0	1	2	3	4	5	6	7	8
						Afghanistan		
						Burma		
						Canada		
						Cameroun		
						Ceylon		
		Australia				Congo (Bra.)		
Argentina		Bulgaria				Dahomey		
Austria		Burundi				Gabon		
Chile		El Salvador			Belgium	Ghana		
Costa Rica		Germany, W			Bolivia	Guinea		
Denmark		Honduras			Cyprus	India		
Greece		Japan		Algeria	Czech'kia	Indonesia		
Iceland		Korea, N.		Brazil	Guatemala	Iran		
Ireland		Korea, S	Albania	Cambodia	Ivory Coast	Iraq		
Luxembourg	Cuba	Mexico	Colombia	Cent Afr R	Liberia	Mali	Chad	
Norway	Dominican R	Mongolia	Israel	Haiti	Malagasy	Mauritania	Congo (Leo.)	
Paraguay	France	Netherlands	Jamaica	Jordan	Morocco	Niger	Ecuador	
Poland	Germany, E	Nicaragua	Libya	Lebanon	Nepal	Pakistan	Ethiopia	
Portugal	Finland	Panama	Spain	Somalia	Philippines	Peru	Laos	
Sweden	Hungary	Rumania	U K.	Syria	Senegal	Sierra Leone	Malaya	
Tunisia	Italy	Rwanda	U S	Thailand	Tanganyika	Switzerland	Nigeria	
U A R	New Zealand	Saudi Arabia	Vietnam, N	Trinidad	U S S R	Togo	S. Africa	
Uruguay	Venezuela	Turkey	Vietnam S	Yemen	Upper Volta	Yugoslavia	Uganda	Sudan
$N=17$	$N=9$	$N=18$	$N=10$	$N=12$	$N=15$	$N=23$	$N=9$	$N=1$

* Mainland China is omitted because of no data on two factors in the Index of Pluralism

ground in this way is perhaps lacking in methodological elegance, it seems a reasonable reflection of the complex and perhaps circular linkages between the degree of pluralism within a polity and other characteristics of that polity.

Among the demographic factors, geographic size and degree of urbanization have the most marked impact on pluralism level (Table 4). In the interests of economy of presentation, only the extreme values of each variable are reproduced here.[14] These show that larger countries are more likely to be highly pluralistic: among polities with a geographic size of 300,000 square miles or more, nearly half are in the extreme pluralism category (Index score 6, 7, or 8), whereas only 10 per cent are negligibly plural (Index score 0 or 1). Moreover, in the full table there is a linear relationship between geographic size and level of pluralism: the larger the polity, the more likely it is to be pluralistic. Indeed, 87 per cent of the variation is due to linear regression and thus to this systematic relationship between the two variables. Both the total χ^2 and the proportion of it due to linear regression are highly significant statistically.

Population size seemingly has only a chance relationship to pluralism, but population density is another matter. The more scattered the population, the more likely the polity is to be highly plural Among the nations with fewer than 100 people per square mile, 38 per cent scored

TABLE 4

ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES AND PLURALISM LEVEL*

Demographic Variable	Pluralism Level†		Chi Square‡		Proportion of Chi Square Due to Linear Regression
	Negligible % (N base)	Extreme % (N base)	Total	Due to Linear Regression	
Geographic size:					
300,000 sq miles or more	9 7 (31)	48 4 (31)	15 73 (d f. 6)	13 74 (d f. 1)	87
Less than 75,000 sq. miles . .	29 8 (47)	12 8 (47)	$p < 02$	$p < 01$	
Population size:					
17 million or more	19 2 (26)	30 8 (26)	5 82 (d f. 6)	2 55 (d f 1)	44
Under 6 million .	22 2 (54)	25 9 (54)	not sig	not sig	
Population density:					
300 or more per sq mile	17 6 (17)	17.6 (17)	11 49 (d f. 6)	4 37 (d.f 1)	38
Less than 100 per sq mile . . .	19 4 (67)	37 3 (67)	$p < 10$	$p < 05$	
Population growth rate:					
2% or more annually .	16 4 (61)	32 1 (61)	4 34 (d f 3)	3 17 (d f 1)	73
Less than 2% annually	33 3 (48)	22 9 (48)	not sig.	$p < 10$	
Urbanization level:					
High, 20% or more in cities over 20,000 . .	41 1 (56)	12 5 (56)	40 92 (d f. 3)	39 14 (d f. 1)	96
Low, less than 20% in cities over 20,000 .	0 0 (49)	51 0 (49)	$p < 001$	$p < 001$	

* This table reports only the "four corners" of larger tables, ranging in size from 3 × 4 to 2 × 4, depending on the number of categories in the demographic variable.

† Since pluralism level is considered the dependent variable in this table, percentages have been calculated *horizontally*

‡ χ^2 values are for the complete table.

positioning of pluralism dictates only the direction in which percentages are run for reporting purposes.

[14] Only the "four corners" of the various 2 × 4, 3 × 4, and 4 × 4 tables are given. In the full tables, pluralism is divided into four categories, and the other variables are in two, three, or four categories. All statistics are computed on the full tables.

as extremely plural, compared to 19 per cent negligibly plural. However, although the χ^2 for linear regression is statistically significant at the .05 level, it accounts for less than 40 per cent of the total variation, indicating that the linear relationship is not straightforward. This is also shown by the fact that, among the polities with a population density of 300 or more per square mile, equal percentages are found in the negligible and extreme plural categories. Population growth rate is another demographic characteristic with no clear relationship to pluralism. While those polities over 40 per cent of urbanized polities is negligibly plural, and only 12.5 per cent extreme. The association is statistically significant at the .001 level, and a linear relationship accounts for over 95 per cent of the variation.

Similar clear-cut relationships are shown with respect to communication characteristics (Table 5). No polities with low literacy rates, as defined by less than 10 per cent literacy among persons above school age, are classified as non-plural, but 58 per cent are scored as extremely plural; and the converse situation occurs among poli-

TABLE 5

ASSOCIATION BETWEEN COMMUNICATION VARIABLES AND PLURALISM LEVEL*

Communication Variable	Pluralism Level†		Chi Square‡		Proportion of Chi Square Due to Linear Regression
	Negligible % (N base)	Extreme % (N base)	Total	Due to Linear Regression	
Literacy§ rate					
High (90% or above)	52.0 (25)	8.0 (25)	37.68 (d.f. 9)	35.96 (d.f. 1)	95
Low (under 10%)	0.0 (26)	57.7 (26)	$p < .001$	$p < .001$	
Newspaper circulation rate:					
High (300 or more per 1,000 population)	57.1 (14)	7.1 (14)	49.57 (d.f. 9)	42.71 (d.f. 1)	86
Low (under 10 per 1,000 population)	0.0 (35)	57.1 (35)	$p < .001$	$p < .001$	

* This table reports only the "four corners" of 4 × 4 tables.

† Since pluralism level is considered the dependent variable in this table, percentages have been calculated horizontally.

‡ χ^2 values are for the complete table.

§ For persons school age and above.

whose population is increasing 2 per cent or more annually are more likely to be plural, and those growing at a slower rate are more likely to be not plural, the association falls within the limits of chance variation. Nearly 75 per cent of the variation which does occur, however, is due to a linear regression of pluralism on population growth rate.

Urbanization is highly related to pluralism. Polities at a low level of urbanization, with less than 20 per cent of the population in cities over 20,000 and less than 12.5 per cent in cities over 100,000, are likely to be plural societies. None of these is scored in the negligibly plural category, and 51 per cent in the extremely plural. Conversely, ties with high literacy rates of 90 per cent or more. The linear relationship specified by the statement, "the lower the literacy rate, the more plural the society," accounts for 95 per cent of the variation found, and associations between the variables are again highly significant. As a corollary to literacy levels, newspaper circulation rates show an almost precisely identical pattern, although in this instance the linear relationship between lower newspaper circulation and higher pluralism accounts for a slightly smaller percentage, 86 per cent, of the total variation.

Variables which may be conceptualized as *consequences* of pluralism also produce marked linear relationships. Thus, among

economic factors (Table 6), higher proportions of the population in agriculture follow from more extreme pluralism levels, to the point that nearly three-quarters of the polities rated as extremely plural have two-thirds or more of their populations in farming pursuits. Eighty-three per cent of the variation is accounted for by linear regression. The patterns are repeated with respect to per capita GNP, except that here higher pluralism is related to progressively lower per capita GNP, with 75 per cent of the extremely plural polities recording less

TABLE 6

ASSOCIATION BETWEEN PLURALISM LEVEL AND ECONOMIC VARIABLES*

Economic Variable	Pluralism Level†		Chi Square‡		Proportion of Chi Square Due to Linear Regression
	Negligible % (N base)	Extreme (N base)	Total	Due to Linear Regression	
Proportion of population in agriculture:					
High over 66%	3.8 (26)	72.7 (33)	35.10 (d.f. 6)	29.06 (d.f. 1)	83
Low: 33% or below	50.0 (26)	9.1 (33)	$p < .001$	$p < .001$	
Per capita GNP:					
High: $600 and above per capita	50.0 (26)	6.1 (33)	42.08 (d.f. 9)	34.81 (d.f. 1)	83
Low: under $150 per capita . .	3.8 (26)	75.8 (33)	$p < .001$	$p < .001$	

* This table reports only the "four corners" of larger tables, ranging in size from 4 × 4 to 3 × 4, depending on the number of categories in the economic variable

† Since pluralism level is considered the independent variable in this table, percentages have been calculated *vertically*

‡ χ^2 values are for the complete table

than $150 per person annually, and linear regression again accounting for 83 per cent of the variation.

Level of pluralism also evidences a linear relationship with the series of political variables (Table 7). The more extremely plural a nation, the more likely it is to have achieved independence after 1945; two-thirds are new nations since World War II. Further, extreme pluralism is associated with a low level of political enculturation, defined by Banks and Textor as a relatively non-integrated polity with near majorities in active opposition,[15] and in addition with negligible interest articulation by associational groups. Conversely, nations of extreme pluralism are likely to witness terest articulation by institutional grou as well as more frequent political pressı by anomic groups. According to the S vey,[16] associational groups include unio business organizations, ethnic or religio associations, and civic groupings; instit tional groups are defined as legislatur armies, bureaucracies, or churches as co porate bodies; and anomic groups refer spontaneous breakthroughs, such as rio and demonstrations. Except for the variab of interest articulation by institutiona groups, the relationships are definitely linear, with 80 per cent or more of the variation due to regression.

The situation is more ambiguous with respect to political power distribution. Whether a polity has elitist leadership, specified as recruitment limited to a particular racial, social, or ideological stratum, or non-elitist, with recruitment based on achievement criteria, has no significant consequences for pluralism level. However, nations with a significant horizontal power distribution are more likely to have a low pluralism level, while those with negligible horizontal power distribution are more likely to be extremely plural. Sixty per cent of

[15] Banks and Textor, *op cit*, p. 88.

[16] *Ibid*, pp. 89-94.

the variation is attributable to a linear relationship. Significant horizontal power distribution is defined by Banks and Textor as the "effective allocation of power to functionally autonomous legislative, executive and judicial organs," while the negligible category describes "complete dominance of government by one branch or an extra-governmental agency."[17]

DISCUSSION AND CONCLUSIONS

Data derived from *A Cross Polity Survey* provide considerable support for the propositions advanced in this paper. It is apparent that polities can be allocated to varying levels of pluralism, and, although there are both omissions and misclassifications, the distribution as a whole appears to present a valid scale. Furthermore, varying levels of pluralism, whether as imputed causes or consequences, relate in a linear fashion to a series of critical demographic, communication, economic, and political variables.

These findings lend striking support to the notion that pluralism is a factor which cannot be ignored in social system analysis. While it is possible that a scale could be devised differentiating various degrees of stratification within societies, there is no indication that it would produce similar results. The implication is that pluralism is

[17] *Ibid.*, p. 106.

TABLE 7

ASSOCIATION BETWEEN PLURALISM LEVEL AND POLITICAL VARIABLES*

Political Variables	Pluralism Level†		Chi-Square‡		Percent of Chi-Square Due to Linear Regression
	Negligible Pluralism	Extreme Pluralism	Total	Due to Linear Regression	
Date of independence					
1913 or before	72.0 (25)	24.2 ([illegible])	27.33 d.f. 6	23.42 d.f. 1	86
After 1945	8.0 (25)	60.7 ([illegible])	p < .001	p < .001	
Political enculturation					
High: integrated polity	52.6 (19)	0.0 (31)	31.92 d.f. 6	25.40 d.f. 1	80
Low: non-integrated polity	10.5 (19)	63.3 (31)	p < .001	p < .001	
Interest articulation associational groups					
Significant, or moderate	64.0 (25)	9.4 (32)	26.67 d.f. 6	24.05 d.f. 1	90
Negligible	12.0 (25)	65.6 (32)	p < .001	p < .001	
Interest articulation institutional groups					
Significant or very significant	30.8 (26)	50.0 (24)	16.42 d.f. 6	8.55 d.f. 1	52
Limited	53.8 (26)	8.3 (24)	p < .02	p < .01	
Interest articulation anomic groups					
Frequent or occasional	15.0 (20)	93.9 (33)	34.67 d.f. 3	33.22 d.f. 1	96
Infrequent or very infrequent	85.0 (20)	6.1 (33)	p < .001	p < .001	
Political leadership					
Highly elitist	20.8 (24)	23.1 (26)	11.54 d.f. 6	3.40 d.f. 1	30
Non elitist	75.0 (24)	53.8 (26)	p < .10	p < .10	
Horizontal power distribution					
Significant	60.0 (25)	17.9 (28)	16.04 d.f. 6	9.66 d.f. 1	60
Limited	32.0 (25)	57.1 (28)	p < .02	p < .01	

* This table reports only the "four corners" of larger tables, ranging in size from 3 × 4 to 2 × 4, depending on the number of categories in the political variable.

† Since pluralism level is considered the independent variable in this table, percentages have been calculated vertically.

‡ χ^2 values are for the complete table.

not simply another form of social stratification which can be subsumed under that variable, but constitutes a special condition of diversity which varies widely in degree across societies. As such, it must be considered as a factor in the development of any universally applicable system theory.

A number of intriguing questions are raised by the findings as they stand. One is placement of the pluralism factor in any causal model: should it be considered the independent or dependent variable? For the purposes of this paper, it has been viewed as dependent with respect to demographic and communication variables, but independent in terms of economic and political ones. This is undoubtedly an oversimplified view. For example, pluralism might be conceptualized as having a circular relationship with literacy rates. While inability to read may foster diversity and hinder integration within a society, pluralism in turn may hamper improvement in literacy due to the excessive costs of maintaining multiple educational systems to accommodate cultural differences. Similarly, although pluralism is likely to be a consequence of a high population proportion in agriculture because of the difficulty in integrating a people widely scattered on the land, it may also serve to keep a polity largely agricultural, since cultural diversity is not conducive to massing people together in industrial complexes. This entire issue of the location of pluralism in a causal chain requires further exploration.

Another question concerns the historical trend of pluralism. The total impression from our findings is that plural societies are typically young nations, covering large, sparsely populated areas, engaged chiefly in agriculture, and poor; their governmental functions are still shaky and unstable, as literacy rates are low, and various interest groups struggle confusedly for dominance. These characteristics tend to increase in intensity the more plural the polity. This impression is not inconsistent with the view that pluralism represents a stage in national and economic development, with the dynamics in the direction of greater acculturation, unity, and economic growth along with governmental stabilization. An alternative interpretation is that the found association between pluralism and recent independence is an artifact of the patterns of European colonialism and the territorial units which developed for a number of idiosyncratic historical reasons. In terms of this explanation, the historical outlook is cloudy; plural societies may break up or tend to gravitate to a level of relatively stable diversity, rather than develop to a highly integrated stage. Only longitudinal analysis could begin to clarify this issue.

CASE WESTERN RESERVE UNIVERSITY

Status Inconsistency and Interaction: Some Alternative Models[1]

Hubert M. Blalock, Jr.

ABSTRACT

Since an identification problem arises in attempts to test a status inconsistency theory, one cannot associate an inconsistency effect in any simple way with the empirically determined interaction term. The existence of interaction can, however, be taken as weak evidence in favor of an inconsistency effect, provided that alternative explanations for interaction can be eliminated. Several mathematical models of inconsistency are explored, with a view to finding implications of rather weak assumptions regarding the directions and order relationships among main and inconsistency effects.

The problem of separating out the effects of status inconsistency from those of individual status variables poses an interesting methodological challenge that illustrates a number of important general issues. In a previous paper, I pointed out that an identification problem, involving the existence of too many unknowns, is created because of the fact that inconsistency is defined as a perfect mathematical function of the difference between two (or more) statuses.[2] In brief, if one is attempting to explain the variation in some dependent variable by a combination of status variables plus inconsistency, it will not be possible to estimate the coefficients without making a priori assumptions that place restrictions on the model. This means that one cannot use purely empirical means to decide whether or not a given status variable has any "main effect," the direction of this effect if it exists, or the magnitude of the inconsistency component. In particular, one cannot assume that the inconsistency effect can be equated with the size of the interaction term.

[1] Paper read at meeting of the International Sociological Association, Evian, September, 1966. I am indebted to the National Science Foundation for support of this research (GS-746) and to Gerhard Lenski for his helpful suggestions.

[2] H. M. Blalock, "The Identification Problem and Theory Building: The Case of Status Inconsistency," *American Sociological Review*, XXXI (February, 1966), 52–61.

The necessity of making some restrictive assumptions in order to identify the various components forces one to face up to the problem of clarifying the theory to the point where this is possible. Unfortunately, there are a large number of reasonably plausible alternatives, and it may prove difficult to choose among these on empirical grounds. The "tests" one makes of the theory will therefore become quite indirect and perhaps rather subtle. The purpose of this paper is to explore the implications of several specific formulations, and in so doing to emphasize the difficulties that lie ahead.

THE PROBLEM

A simple example will illustrate the identification problem. While the issue can be stated more eloquently in terms of regression models, I shall, for the most part, confine the illustrations to simple 2×2 tables in which there are two status variables, each of which is dichotomized into "high" and "low." Scores for the dependent variable are given in the body of the table. I shall take political liberalism as the dependent variable, though, of course, the choice of dependent variable is arbitrary from the methodological standpoint.

Suppose one obtains the results shown in Table 1. High scores in the body of the table indicate the more liberal position. A quick inspection of the table might lead to the following conclusions: (1) the main

effects of both status variables are negative, with that of status 1 being more pronounced than that of status 2; and (2) there is an interaction effect (difference of differences) amounting to $(50 - 20) - (70 - 60) = 20$. Alternatively, the sum of the high-high plus the low-low cells is 20 less than that of the "inconsistent" cells (abbreviated $HH + LL < HL + LH$).[3] One might infer an inconsistency effect equal to 20, with inconsistents being more liberal.

TABLE 1

		Status 1	
		High	Low
Status 2	High	20	60
	Low	50	70

But let us examine some alternative ways of breaking down this table into additive and interaction components, assuming that the interaction component will have zero contributions in the main diagonal (*HH* and *LL*) but that there are various possible combinations of interaction effects for the *LH* and *HL* cells. In other words, suppose one is not willing to assume that inconsistency always increases liberalism, regardless of the direction of the inconsistency. Furthermore, suppose the magnitudes of the inconsistency effects are not necessarily equal. Some of the alternatives are given in Table 2; clearly, there are indefinitely many such possibilities.

In situation A, the contributions of the *HL* and *LH* cells are both positive and equal. In B, there is an inconsistency effect in one direction only, whereas, in C the effect is positive in one direction but negative in the other. Situations D and E represent the interesting special cases where one or the other of the main effects of the status variables is zero (e.g., in D there is no main effect of status 2, since the row figures are identical). In F, we have a situation in which the main effects of the status variables are in *opposite* directions and where the magnitudes of the inconsistency contributions are quite large (though in opposite directions). Finally, in situation G, the composite table shows no interaction in spite of the fact that there are inconsistency effects. This occurs because the inconsistency effects happen to be of the same magnitude but opposite in direction.

From these examples, it should be quite clear that the magnitude of the inconsistency component cannot be directly estimated from the empirical data. In other words, there are infinitely many possible parameter values that might have produced the same empirical results. This is the essence of the identification problem. In some instances, one particular set of values might seem more plausible than others, on either theoretical grounds or because the interpretation is much simpler. But if one wishes to select that most plausible set of values, he should do so with the full realization that implicit or explicit assumptions must be made which rule out the remaining alternatives.

To illustrate this particular point, consider Jackson's study of psychosomatic symptoms.[4] It turned out that, for Jackson's data involving three status variables (ethnicity, education, and occupation), symptoms of stress were apparently unrelated to over-all level of status. Jackson used three levels (high, medium, and low) for each of the three status variables and found that the combinations *HHH*, *MMM*, and *LLL* all had about the same stress scores. Inconsistents whose ascribed statuses were higher than achieved, however, had considerably higher symptom scores. From this it is reasonable to conclude that the main effects of each status variable are negligible and that inconsistency of the above type produces stress. But some alternative possibilities are given in Table 3.

[3] This particular formulation has been used by G. E. Lenski in "Comment," *Public Opinion Quarterly*, XXVIII (Summer, 1964), 362–30.

[4] E. F. Jackson, "Status Consistency and Symptoms of Stress," *American Sociological Review*, XXVII (August, 1962), 469–80.

TABLE 2

Actual Results				Possible Components: Additive			Possible Components: Interaction		
	H	*L*							
H	20	60	=	20	50	+	0	10	A
L	50	70		40	70		10	0	
			=	20	40	+	0	20	B
				50	70		0	0	
			=	20	30	+	0	30	C
				60	70		−10	0	
			=	20	70	+	0	−10	D
				20	70		30	0	
			=	20	20	+	0	40	E
				70	70		−20	0	
			=	20	80	+	0	−20	F
				10	70		40	0	
	20	40	=	20	60	+	0	−20	G
	50	70		30	70		20	0	

TABLE 3

Actual Results: Achieved Status					Possible Components: Additive			Possible Components: Interaction		
		H	*L*							
Ascribed Status	*H*	40	70	=	40	40	+	0	30	A
	L	40	40		40	40		0	0	
				=	40	70	+	0	0	B
					10	40		30	0	
				=	40	55	+	0	15	C
					25	40		15	0	

Situation A would be consistent with Jackson's interpretation; neither status variable has a main effect, and there is an inconsistency effect only when ascribed status is high and achieved low. But the data are also consistent with situation B, in which the inconsistency effect appears only when the achieved status is *higher* than the ascribed. This would require that the two main effects be in opposite directions, however. Situation C represents one of the infinite number of additional possibilities, namely, the one in which the inconsistency effects are equal and both in the same direction. Of course, A represents a much simpler situation, and also (perhaps) one that is more plausible theoretically. Nevertheless, one cannot rule out the various alternatives unless he is willing to make assumptions, such as that of zero main effects.

It has been noted that one cannot associate the interaction term in any simple way with inconsistency effects and that it is even possible to have opposite inconsistency effects that produce no interaction term.[5] Nevertheless, there is a sense in which the existence of interaction can be helpful in appraising the utility of the inconsistency formulation when predicting to specific dependent variables. In situations A–F of Table 2, the "net" inconsistency effect was +20, though, for example, this might be produced by a combination of 40 in the *HL* cell and −20 in the *LH* cell. Provided one assumes that the individual status variables produce effects that are additive, then the amount of interaction represents a kind of minimum "net" inconsistency effect. Thus, whenever one finds interaction, he might suspect an inconsistency effect, though it may be difficult to pin this down to specific cells. Empirical support for or against status inconsistency models would therefore seem to hinge on the interaction term.[6]

A major caveat is necessary at this point. One should *always* evaluate the evidence in favor of any particular theory against all plausible rival hypotheses. This is especially crucial in the case of very indirect tests that depend on the mere *existence* of interaction effects. There are numerous alternative explanations for interaction that cannot be discussed here due to space limitations. These include the possibility of sampling error, differential measurement errors, approaches to upper (or lower) limits due to measurement artifacts, non-linearity combined with multi-collinearity, and other specific non-additive models (e.g., multiplicative effects). They also include the possibility that the inconsistency effects are spurious (e.g., due to age or ethnic differences that have not been controlled).

SPECIFIC ILLUSTRATIVE MODELS

Clearly, we cannot assume that sociological theory will be adequate to suggest particular absolute values (other than zero) for any of the coefficients in an inconsistency model. Assumptions regarding the *signs* of the coefficients, plus perhaps some relatively weak assumptions concerning ordinal relationships, would seem more appropriate, however. The immediate objective would be to put sufficient restrictions on the model to imply predictions which are specific enough to differentiate the theory from alternative explanations for interaction, while at the same time being testable with crudely categorized variables (e.g., a 3 × 3 table of ordered categories).

I shall first examine the implications of a specific non-symmetric model based on the assumption that there are two status variables that have been measured as inter-

[5] See M. D. Hyman, "Determining the Effects of Status Inconsistency," *Public Opinion Quarterly*, XXX (Spring, 1966), 120–29; and R. E. Mitchell, "Methodological Notes on a Theory of Status Crystallization," *Public Opinion Quarterly*, XXVIII (Summer, 1964), 315–25.

[6] This interaction term can nevertheless be well specified and decomposed analytically into components that have definite theoretical meanings. For an interesting new approach to this question, see D. R. Ploch, "A Method for Status Inconsistency Research that Solves the Identification Problem" (unpublished manuscript).

val scales. Rather weak assumptions will be made concerning the coefficients in this model, so that implications can be suggested for the ordinal case. In a previous paper, I dealt briefly with a symmetrical nonlinear model in which the inconsistency effect was taken as the *square* of the difference between statuses.[7] This imposed the restriction that the inconsistency effect be the same, regardless of the direction of inconsistency. It also gave relatively greater weight to the extreme inconsistencies. Here I shall explore the implications of a model which allows for asymmetry, and which takes the inconsistency effect as proportional to the first power of the differences in status. More general models could of course be formulated, though at the expense of introducing additional parameters.[8]

Let us take Y to be political conservatism, so that it is reasonable to assume that Y increases with both status variables X_1 and X_2. I shall assume that the "main effects" of the status variables are linear and additive and that the coefficients of inconsistency may differ according to the direction of this inconsistency. As special cases, one may then take either or both main effects, or one or the other of the inconsistency coefficients, to be zero. The equation for Y is as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3Z_1 + b_4Z_2 + e_y ,$$

where

$$Z_1 = X_1 - kX_2, \quad \text{for} \quad X_1 > kX_2$$
$$= 0 \quad \text{for} \quad X_1 \leq kX_2 ,$$

and

$$Z_2 = kX_2 - X_1, \quad \text{for} \quad X_1 < kX_2 ,$$
$$= 0 \quad \text{for} \quad X_1 \geq kX_2 .$$

Thus the inconsistency effect has been broken into two components. Z_1 will be positive whenever X_1 is greater than kX_2; otherwise it will drop out of the picture and be replaced by Z_2, which will be positive whenever X_1 is less than kX_2. In the special case where X_1 exactly equals kX_2, we will say that by definition there is no status inconsistency, and both Z's will be zero. In the particular case where Y is political conservatism, we may wish to assume that b_1 and b_2 are non negative and that b_3 and b_4 cannot be greater than zero. Let us first examine the more general case, however.

The general form of the above equation for Y consists of two straight lines, with a "bend" point at $X_1 = kX_2$. Given inexact measurement, plus real differences with respect to the precise location of the point at which two statuses are socially defined as "consistent," it would perhaps be more realistic to think in terms of smooth curves. But in most instances the "two-slope" model can serve as a reasonable approximation. This makes it possible to work with two distinct linear regressions as follows:

for $X_1 < kX_2$,

$$Y = a + (b_1 - b_4)X_1 + (b_2 + kb_4)X_2 + e_y ,$$

and

for $X_1 > kX_2$:

$$Y = a + (b_1 + b_3)X_1 + (b_2 - kb_3)X_2 + e_y ,$$

where we assume that the same error term e_y applies throughout, and where this error term has zero mean and is uncorrelated with the X's.

With no restriction on the b's, the directions of the empirically determined slopes (e.g., $b_1 - b_4$) are of course not predictable. For example, the various possibilities for fixed values of x_2 and $b_1 > 0$ are given in Figure 1. Thus even though the "main effect" of x_1 may be positive (i.e., $b_1 > 0$), the empirically determined slope may be negative for low values of X_1 if b_4 is positive and greater in magnitude than b_1. Similarly, the slope for values of X_1 greater than kX_2 may be either upward or down-

[7] Blalock, *op. cit.*

[8] This approach was originally suggested to me by J. S. Coleman. Whenever three or more status variables are involved, it will probably be more sensible to use an approach similar to that developed in Ploch, *op. cit.*

ward, depending on the relative values of b_1 and b_3. In the special case where b_3 and b_4 are of opposite sign but equal in magnitude, the two slopes will be exactly equal, and there will be no bend point. This is, of course, the case we have already considered in which there will be no interaction term, even though there may be a status inconsistency effect.

Therefore, if one is to make predictions as to the directions of the empirical slopes, he must commit himself in advance on the relative magnitudes of the main and inconsistency effects. For example, in the case of values of X_1 less than kX_2, the slope will decrease only if b_4 is greater than b_1, where b_1 is positive. If one were to assume that b_4 is negative, then he can be assured of an increasing slope for low values of X_1. But if the inconsistency effect were positive, then the prediction is indeterminate unless one can say something about the relative magnitudes. In this latter case, it will perhaps be possible to specify theoretically some conditions under which the inconsistency effect will be more or less large, and this might be used to make qualitative predictions (e.g., slope steeper under conditions A than under B). But it seems entirely unrealistic to suppose that predictions can be made concerning the absolute magnitudes of, say, b_1 and b_4. Differential assumptions regarding the relative magnitudes of b_3 and b_4 would seem more likely. For example, following Jackson, one might assume a priori that b_3 will be numerically very small as compared with b_4. If so, statements can be made concerning the *change*

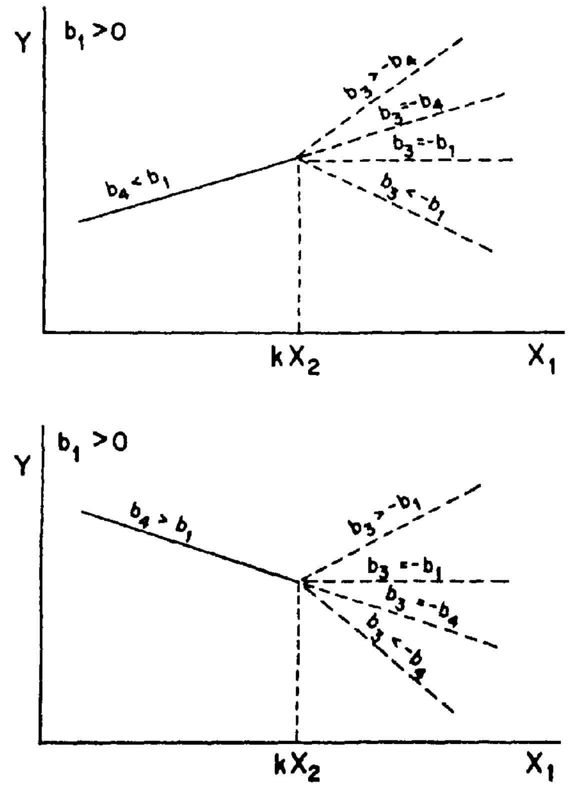


FIG. 1

in slope as X_1 increases. In the case of X_1, this change in slope is proportional to $(b_3 + b_4)$, which will be dominated by b_4 in this instance.

In Figure 1, X_2 has been taken as fixed, meaning that the "bend point" kX_2 is always in the same location on the X_1 axis. Suppose we were to select one of the possible combinations of b's indicated in Figure 1, while constructing a family of curves for different levels of X_2. The result would be as in Figures 2 and 3. Notice that, although the lines are parallel both for very low and very high values of X_1, the fact that different values of X_2 are being used means that the *distances between curves* vary with the bend points. Provided that strong enough assumptions can be made, this may permit differential predictions concerning the "spread" in Y values at various points along the X_1 axis. Hopefully, these might be tested with crude qualitative data.

In both Figures 2 and 3 I have taken b_1 and b_2 as positive, b_3 and b_4 negative, and have used three increasing levels of X_2 designated as $X_2^{(1)}$, $X_2^{(2)}$, and $X_2^{(3)}$.

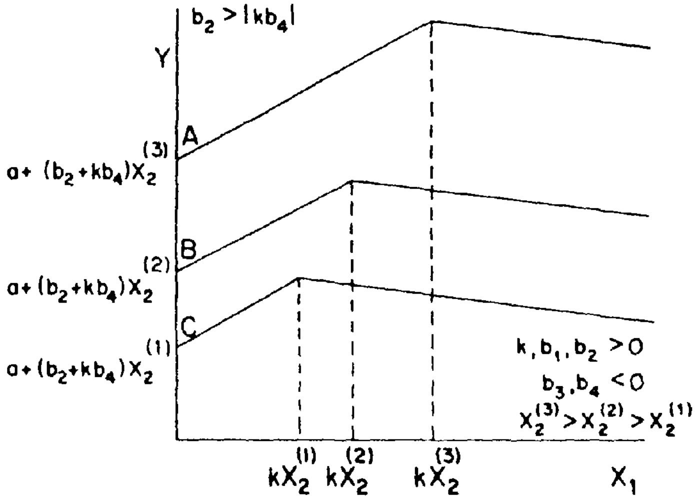


FIG. 2

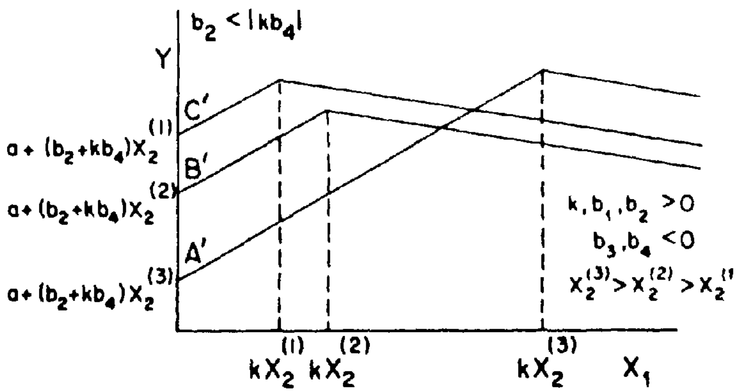


FIG. 3

These particular signs for the slope coefficients imply that the empirical slope relating X_1 and Y will always increase up to kX_2. Then it may either continue positive, but with a smaller numerical value, or become negative, depending on whether b_1 is numerically larger than b_3. The crucial difference between the two figures is in the sign of the expression $(b_2 + kb_4)$ which determines the order of the Y intercepts for lines A, B, and C, and A', B', and C'.

TABLE 4

		X_1: $L = 1$	$M = 2$	$H = 3$
	$L = 1$	(1) $b_{11} + b_{21}$	(2) $b_{12} + b_{21} + b_{3,21}$	(3) $b_{13} + b_{21} + b_{3,31}$
X_2	$M = 2$	(4) $b_{11} + b_{22} + b_{4,12}$	(5) $b_{12} + b_{22}$	(6) $b_{13} + b_{22} + b_{3,32}$
	$H = 3$	(7) $b_{11} + b_{23} + b_{4,13}$	(8) $b_{12} + b_{23} + b_{4,23}$	(9) $b_{13} + b_{23}$

In Figure 2, b_2 is numerically greater than kb_4. This means that the slope relating X_2 and Y is positive for $X_1 < kX_2$. Therefore, for $X_1 = 0$, the intercepts will be in the same order as are the quantities kX_2 (since k is also positive). Thus line C has the smallest intercept and also the first bend point; line A has the last bend point and also the greatest intercept. This fact means that the spread in Y values will be greater for large values of X_1 than for smaller ones, regardless of whether the slope $(b_1 + b_3)$ is greater than zero. As can easily be verified, the *difference* in the distances between lines A and B, below and above the bend points, is numerically equal to $-k(b_3 + b_4)(X_2^{(3)} - X_2^{(2)})$, and similarly for other pairs of lines. Since b_3 and b_4 are negative, this change in the distance between lines is of course positive.

It will ordinarily be difficult to make realistic a priori assumptions concerning the relative magnitudes of b_2 and b_4 or even the sign of the expression $(b_2 + kb_4)$ which determines the order in which the lines intersect the Y axis. If this quantity is negative, the results may be similar to those represented in Figure 3. The distance between B' and C' *decreases* when X_1 increases beyond kX_2. On the other hand, A' happens to cross both other lines, with the actual magnitude of the distance from the other two lines also decreasing. If one's empirical results were to turn out this way, he might be willing to infer some rather crude qualitative relationships among the coefficients, for example, that the interaction component b_4 is relatively large as compared with the main effect b_2. Of course, if one could make differential predictions ahead of time concerning the conditions under which b_4 would be relatively large, then his argument would be much more convincing.

MODELS FOR ORDINAL DATA

Let us consider an alternative formulation in terms of a 3×3 table involving ordered categories of the status variables X_1 and X_2. Let the Y scores in the body of the table (Table 4) again represent political conservatism. In order to keep the notation similar to that used in the regression equations, I have introduced b coefficients with double subscripts.[9] Since a is merely a single constant, this term has been dropped throughout. In effect, the second subscript on each b absorbs the numerical value of X_1 or Z_1, which are of course numerically undefined in the ordered case. Thus the symbol b_{11} indicates that we are dealing with the effect of X_1, where the level of X_1 is at its lowest value $(= 1)$; b_{12} represents the effect of X_1 at level 2; b_{21} that of X_2 at level 1, and so forth. The inconsistency effects are represented by b's with triple subscripts: $b_{3,31}$ being the effect of X_1 at level 3 and X_2 at level 1, whereas $b_{4,13}$ represents the reverse situation where X_1 is at level 1 and X_2 at level 3.

Suppose we again assume that the two main effects are positive, whereas the inconsistency effects are negative. Furthermore, let us assume that the negative effects

[9] For simplicity, I am ruling out the possibility of sampling error in this example.

of extreme inconsistency are at least as great as those of moderate inconsistency in the same direction. This means that $b_{3,31}$ cannot be smaller in magnitude than either $b_{3,21}$ or $b_{3,32}$, though we assume nothing about the relative size of $b_{3,31}$ as compared with any of the b_4 coefficients. The following inequalities will then hold:

$$b_{13} \geq b_{12} \geq b_{11} \geq 0 \ ,$$

$$b_{23} \geq b_{22} \geq b_{21} \geq 0 \ ,$$

$$b_{3,31} \leq b_{3,21} \ , \quad b_{3,32} \leq 0$$

$$b_{4,13} \leq b_{4,12} \ , \quad b_{4,23} \leq 0$$

These inequalities imply that both the last row and the last column will be monotonically increasing, while the order relationships in the remaining rows and columns will be indeterminate. For example, comparing the cells in the last column we have:

$$(9) - (6) = (b_{23} - b_{22}) - b_{3,32} \geq 0 \ ,$$

and

$$(6) - (3) = (b_{22} - b_{21}) + (b_{3,32} - b_{3,31}) \geq 0 \ .$$

A similar result holds in the case of the last row. On the other hand, in the case of the second column:

$$(8) - (5) = (b_{23} - b_{22}) + b_{4,23} \ ,$$

which may or may not be greater than zero depending on the relative magnitude of the inconsistency effect. In general, large inconsistency effects may produce tables in which most of the rows and columns do not increase (or decrease) monotonically.

Lenski provides two sets of data that illustrate this point.[10] These data are given in Table 5, Y being the percentage of Detroit voters who did not prefer the Democratic candidate. In the case of the 1952 data, all rows and columns are monotonically increasing, whereas this is not the case for the 1954 data.[11] Notice that the very simple criterion of comparing the extreme inconsistents $(LH + HL)$ with the consistents $(HH + LL)$ produces a much stronger interaction term in the case of the 1954 data, for which some of the rows and columns do not increase monotonically. Many kinds of alternative explanations for interaction (e.g., differential measurement error) could be used to account for the 1952 data but not so easily for the 1954 data. Thus, although the assumptions made about the signs and relative magnitudes

TABLE 5

		1952 (N = 495)				1954 (N = 499)		
			X_1				X_1	
		L	M	H		L	M	H
	L	15	22	35	L	12	31	21
X_2	M	20	29	42	M	8	43	37
	H	36	52	76	H	14	50	61

of the b's are indeed rather weak, implying very few predictions, they are nevertheless compatible with both sets of data.

If one uses a simple arithmetic mean of the column (or row) differences to estimate the main effects of X_1 (or X_2), he will ordinarily obtain biased estimates. For example, in the case of columns 1 and 2, the difference due to the main effect of X_1 should be $(b_{12} - b_{11})$. Actually, however, the quantities $b_{3,21}$, $- b_{4,12}$, and $(b_{4,23} - b_{4,13})$, respectively, will be added to this main effect. Since two of these quantities will be positive under the above assumptions, one would expect to overestimate the main effect of X_1 in shifting from column 1 to column 2. In contrast, in comparing columns 2 and 3, the main effect $(b_{13} - b_{12})$ will tend to be underestimated since two of the three inconsistency components will be negative. Of course, there may be situations in which these particular biases will not hold, owing to the relative magnitudes of the inconsistency effects (e.g., $b_{3,21}$ may be much larger numerically than

[10] Lenski, *op. cit.*

[11] Notice that for both sets of data the scores on the dependent variable are further apart for high values of X_1 and X_2 than for low values.

any of the b_4 components). The essential point is that straightforward comparisons of the column or row differences will often be misleading. This is, of course, saying nothing more than that there is an identification problem.

Finally, for illustrative purposes, let us impose an additional set of restrictions on the model which may turn out not to have much substantive justification, but which nevertheless implies more definitive results. Suppose the inconsistency effects in a given direction are taken as proportional to the main effects of whichever status variable has the lower value.[12] For example, suppose we are dealing with the portion of the

TABLE 6

		X_1: $L = 1$	X_1: $H = 2$
X_2	$L = 1$	$b_{11} + b_{21}$	$b_{12} + b_{21} + b_{3,21}$
X_2	$H = 2$	$b_{11} + b_{22} + b_{4,12}$	$b_{12} + b_{22}$

table in which income is lower than occupation. Then we would take the inconsistency effect to be proportional to the main effect of the income variable. Similarly, if occupation is lower than income, then inconsistency is assumed to produce effects proportional to the occupation effects. In Table 6, we return to the simple case of the 2×2 table.

The quantity $b_{3,21}$ represents the inconsistency effect when X_2 is low and X_1 high, and we will therefore assume that this is proportional to the main effect of X_2 as measured by $(b_{22} - b_{21})$. If we express $b_{4,12}$ as being this same proportion of the main effect of X_1, we obtain the two equations:

$$b_{3,21} = K(b_{22} - b_{21}),$$

and

$$b_{4,12} = K(b_{12} - b_{11}),$$

which enable us to identify the coefficients As can easily be verified, the numerical table used in the first section may then be decomposed into an additive and interaction component as follows:

$$\begin{vmatrix} 20 & 60 \\ 50 & 70 \end{vmatrix} = \begin{vmatrix} 20 & 53.3 \\ 36.7 & 70 \end{vmatrix} + \begin{vmatrix} 0 & 6.7 \\ 13.3 & 0 \end{vmatrix},$$

where 13.3 represents 40 per cent of the main effect of X_1 or $33.3 = (53.3 - 20)$; and 6.7 is likewise 40 per cent of $16.7 = (36.7 - 20)$.

One must decide whether to use first-degree or more general power functions. If it is assumed that inconsistency effects are proportional to the first powers of the main effects, then in the 3×3 case this implies that the effects of extreme inconsistency (in either direction) can be written as a simple sum of the less extreme inconsistencies in that same direction. For example, we should have $b_{3,31} = b_{3,21} + b_{3,32}$. This in turn implies that, if one examines only the four cells in the upper right corner, the relationship should be additive. The same also applies, of course, to the four cells in the lower left corner Notice that Lenski's 1954 data fit these assumptions reasonably well. The difference of differences for the lower left cells is $(14 - 8) - (50 - 43) = -1$; that for the upper right cells is $(21 - 37) - (31 - 43) = -4$. For the 1952 data, the comparable figures are -7 and 0.

CONCLUDING REMARKS

It does not seem realistic to suppose that relatively precise mathematical models can be rigorously tested, given inadequate measurement and conceptualization plus the identification problem. It will, therefore, probably be necessary to apply two different strategies simultaneously. We shall have to explore the implications of alternative mathematical formulations, but it will also be necessary to formulate verbal

[12] In support of this assumption, one might argue that it is the lower of the two statuses that produces strains in the individual, and that his behavior due to the strain component ought therefore to be essentially similar in nature to that produced by the "main" effect of this particular status variable.

theories that specify more clearly the conditions under which inconsistency effects can be expected to be more or less pronounced, or to be patterned in given ways. In particular, it will be important to identify and measure various non-status factors, such as personality traits or characteristics of the situation that affect the importance attached to different patterns of inconsistency. In statistical terminology, this will involve looking for "second-order interactions" where there is an interaction of the interactions. For example, one might be in a position to predict that the interaction term should be stronger under one set of conditions than another, even though these interaction terms cannot be directly linked with inconsistency effects. Presumably, there will be relatively few alternative models that similarly predict such higher-order interactions. Again, however, one should always anticipate possible alternatives. For example, a multiplicative model involving three independent variables generates second-order interactions.[13]

The first theoretical task is that of proposing a number of specific models that seem compatible with qualitative data under varying conditions. This will undoubtedly involve a considerable amount of exploratory, inductive, or ex post facto fitting of different sets of data to alternative models. Once we have settled on particular models, it will then be possible to obtain estimates of the magnitudes of the component effects. As we have seen, however, such estimates cannot be obtained without putting restrictions on the model in order to resolve the identification problem. In short, much remains to be done before really definitive conclusions can be reached concerning the effects of status inconsistency.

UNIVERSITY OF NORTH CAROLINA

[13] For further discussion see H. M. Blalock, "Theory Building and the Statistical Concept of Interaction," *American Sociological Review*, XXX (June, 1965), 374–80.

Craps and Magic[1]

James M. Henslin

ABSTRACT

Problem 1.—How can these players operate simultaneously in both the dimensions of rationality and irrationality, of probability and magic? These cab driver–crapshooters usually bet according to known probability ("rational" aspect of the game), yet they have many magical practices in their betting and shooting that make little sense to an outside observer (the "irrational" aspects of the game). Once one understands the players' basic belief system, their system of cause and effect, one then sees that their magical practices are also "rational," that is, the strategies these players use to maximize their own control over the dice when they are shooting and to minimize the control of other shooters are logically consistent within their belief system. Without understanding their belief system, we do not understand their behavior.

Problem 2.—What is the origin of their magical behavior and belief system? An attempt is made to reconcile theories of Malinowski and Kroeber concerning the origin of magic with principles of operant conditioning.

I. PROCEDURE OF DATA COLLECTION

In investigating cab drivers by participant observation, I spent as much time as possible with cab drivers, both on and off duty, participating in whatever activities cab drivers engaged in as a group. One of these recurring group activities was crapshooting. I participated in seventeen crap games with these drivers. Sixteen of the games were held between the work shifts from about 3 A.M. to 6 or 7 A.M. by Metro drivers in or behind the Metro garage or in a nearby used-car lot. The other game was held in the apartment of a driver from a different cab company, with drivers from several St. Louis cab companies participating. Portions of several of these crap sessions were recorded, this being unknown to the other participants.

[1] The unproved and perhaps unprovable assumption in this paper is that one cannot "control" dice, i.e., that dice are not subject to the wishes or desires or needs of the crapshooter, but obey fully the laws of probability, of chance, of odds. This assumption prevails throughout this paper. The reason it is mentioned at this point is that the field of investigation known as parapsychology disagrees entirely with this underlying assumption. The form of extrasensory perception (ESP) that would apply here is psychokinesis (PK), influencing physical events through mental operations. However, according to a review of over two hundred studies, ". . . evidence of PK as a psychological phenomenon is totally lacking" (Edward Girden, "A Review of Psychokinesis [PK]," *Psychological Bulletin*, LIX [1962], 353–88) See also C. E. M. Hansel, *ESP: A Scientific Evaluation* (New York: Charles Scribner's Sons, 1966), especially pp 153–63.

II. RULES OF CRAPS

The rules of the game of craps which were followed by these driver-players were quite simple. They were of two kinds: fixed and variable. The fixed rules, those concerning the rudiments of the game, can be summarized as follows:

1. Two dice are used.
2. Bets are made on the outcome of the throw.
3. If the shooter receives a 7 or 11 on his first throw, he has made a "natural" and is automatically the winner.
4. If the shooter receives a 2, 3, or 12 on his first throw, he has made "craps" and is automatically the loser.
5. Whatever other combination shows up (a 4, 5, 6, 8, 9, or 10) is the shooter's "point."
6. On second and subsequent throws of the dice only combinations totaling either 7 or the shooter's "point" count. All other combinations are disregarded.

7. If the shooter makes his "point" before a 7, he wins.
8. If the shooter makes a 7 before his "point," he loses.
9. Changing shooters:
   A shooter is allowed to continue shooting until he has received a "point," that is, shooting "craps" on one's first throw(s) does not disqualify a shooter from continuing to shoot. (He has lost the bet but retains the right to shoot.) As long as a shooter continues to make his "point," he is allowed to continue shooting. When he is "coming out for a new point" and makes craps (i.e., he has already successfully made a point or points, but makes craps when he throws anew), or if at any time he loses by throwing a 7 before his "point," he must quit shooting, and the next man to this shooter's left becomes the new shooter. (In this case, he has lost both the bet and the right to shoot.)
10. Betting:
   The shooter offers whatever amount he wishes as a bet. The former shooter ("bag man") has the right to "cover" as much of this bet as he desires, other players taking what remains. This bet is placed on the playing surface in the center of the players, who are forming a semicircle around the backboard object, and is known as the "bet in the middle." In addition to this, there are "side bets," bets that players make with one another and/or with the shooter, the money being placed on the ground at the side of the semicircle or held by one of the bettors.

The variable rules are of two kinds: optional and situational. Optional variable rules are rules whose acceptance is completely dependent on the discretion of the players at any given time: players are allowed to invoke and follow an optional rule when they desire and to refuse it when they desire. The binding power of this type of rule depends on the free acceptance of the rule by two or more players, the time period during which the rule will be binding being implicitly understood. An example of the optional variable rule is the "bar" bet. To "bar" a bet means that all the fixed rules hold except that a 7 formed by the combination of a 6 and 1 calls off the bet. Bets are "barred" on points of 10 and 4 (and occasionally on 5 and 9) in order to keep even money in the bet even though the chances of a 7 appearing before a 10 or 4 are two-to-one. (The "bar" bet allows the money to remain one-for-one instead of two-for-one.) The "bar" bet is optional in that when it is offered a player will (*a*) accept the "bar" bet, (*b*) accept a two-for-one bet instead, or, rarely, (*c*) take a one-for-one bet without the "bar."

Situational variable rules are those rules whose introduction and employment are dependent on something in the external situation, and once they are introduced they are binding on all the players for the duration of the game. Examples of the situational variable rule are those rules that govern "No Dice." "No Dice" means that the throw is declared invalid, that the resulting combination does not count. The circumstances that determine when "No Dice" will be called are dependent on the external situation. For example, "No Dice" may (or may not) be called in the following situations:

a) when either one or both dice do not hit the backboard object;
b) when a die is located in an indentation or against an object such that it is not certain which side is facing up ("cocked dice");
c) when the dice leave the playing area or go under an object, such as a car;
d) when both dice do not hit first on the near side of a line and then bounce clearly across the line (a "strike").

Whether "No Dice" is called will depend on the agreement by the players before the game or at some point during the game that "No Dice" will prevail under certain circumstances. Once the circumstances are agreed upon, they are binding on all the players and are not up to the discretion of individual players for their acceptance as are the optional rules.

III. THE PRACTICE OF MAGIC IN CRAPS

When I first started shooting craps with these driver-players, I thought that they

were shooting and betting solely under a rational system of probability, but after I had shot with them for some time it became apparent that this was not the case. Although probability as expressed by "odds" does greatly influence and determine their betting behavior—for example, every crapshooter knows that the probability is two to one against the shooter making a "point" of 10 before making a 7, and the betting usually accurately reflects this probability—this rational aspect of crapshooting falls far short in explaining the behavior of these players. Much more is involved than this rational aspect. In analyzing their behavior and statements, the conclusion to which I came was that they believed in and were practitioners of magic. This is not to say that they define themselves as magicians or that they would themselves state that they believed in magic, but it means that if magic is defined as it traditionally is in anthropology as *the belief and/or practice in the control over objects or events by verbal or non-verbal gestures (words or actions) where there is no empirical (natural or logical) connection between the gesture as cause and the object or event as effect*, then these driver-players do believe in and practice magic.[2]

I came to this conclusion because it became evident to me that these players were convinced that they could control the dice, that is, as shown by their behavior (by their statements, gestures, and betting practices), they were not playing solely under the assumption of probability or odds, but, rather, they also moved within the framework of a system of magical beliefs. This conclusion is not based on any a priori assumptions on my part (indeed, my world view and assumptions were quite the opposite), but it derives solely from the data themselves, from the verbal and nonverbal behavior (statements and actions) of the players in their betting and shooting.

The principles of magic which these players use are not formal, that is, these men do not in some formal or overt manner officially subscribe to the principles of belief underlying their practices. (It is not as if one must first become acquainted with the system of beliefs and then, after agreeing to it, be allowed to engage in crapshooting.) These principles are diffuse, covert, and latent, being generally unrecognized by the participants themselves. Since this is so, they must be abstracted by the ethnographer, and what follows is an attempt to interpret and clarify, on the basis of the participants' own statements and actions, the principles of belief in magic which determine particular behaviors.[3]

[2] See, e.g., the definitions by E. R. Leach in Julius Gould and William L. Kolb (eds.), *A Dictionary of the Social Sciences* (New York: Free Press, 1964), p. 398; and Thomas F. O'Dea, *The Sociology of Religion* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966), p. 7.

[3] This is precisely what Sir James Frazer concluded concerning his study of magical practices among more primitive people: "The primitive magician knows magic only on its practical side, he never analyzes the mental processes on which his practice is based, never reflects on the abstract principles involved in his actions" (Sir James Frazer, *The Golden Bough* [London: Macmillan Co., 1922], p. 11). Therefore, "(it) is for the philosophic student to trace the train of thought which underlies the magician's practice, to draw out the few simple threads of which the tangled skein is composed; to disengage the abstract principles from their concrete applications" (*ibid.*, p. 12).

Malinowski concurs that it is the ethnographer who must abstract these principles. "We cannot expect to obtain a definite, precise and abstract statement from a philosopher, belonging to the community itself. The native takes his fundamental assumptions for granted, and if he reasons or inquires into matters of belief, it would be always only as regards details and concrete applications. Any attempts on the part of the Ethnographer to induce his informant to formulate such a general statement would have to be in the form of leading questions of the worst type because in these leading questions he would have to introduce words and concepts essentially foreign to the native. Once the informant grasped their meaning, his outlook would be warped by our own ideas having been poured into it. Thus the Ethnographer must draw the generalisations for himself, must formulate the abstract statement without the direct help of a native informant" (Bronislaw Malinowski, *Argo-*

The magical belief that is most basic in determining the actions and statements of these players is: ***It is possible to control dice by verbal and non-verbal gestures, by words and actions.*** (Since, of cour e, there is no logical or empirical connection between the words or actions and the movement of the dice, this belief and its associated practices are herein being called "magic.") Out of this basic conviction on the part of crapshooters has grown a fairly extensive system of beliefs on the basis of which the crapshooter modifies his gambling behavior so that it conforms with these beliefs.

Because of this basic belief, the players view craps as a game of skill, much as competitive sports are ordinarily viewed by members of society. Arising from this basic belief are corollary beliefs that dictate to the players what strategies and techniques are to be followed under given circumstances. These strategies and techniques center on (*a*) maximizing one's control over the dice (Parts IV V below), (*b*) regaining control when it has been lessened (Parts VI and VIII), and (*c*) minimizing another player's control (Part IX).

IV. MAXIMIZING CONTROL BY CORRECT SHOOTING

The basic way to maximize one's control over the dice, to produce desired points, a belief which seems to be shared by all the crapshooters observed, is that one is able to bring about one's needed point if one shoots in the correct way. At least if one shoots in the correct way one will have a better chance of making the point than if one shoots in the wrong way. Shooting in the correct way requires certain techniques, techniques that match an underlying corresponding belief. For example, it is believed as a principle that "a hard throw produces a large number, and a soft or easy throw produces a low number."

> B was trying for "Little Joe," a 4 He tried several times, and on one throw the result was a high number He then said, "Shot too hard that time"

Occasionally, shooters are even cautioned or instructed by other players to shoot easier for a lower number or to throw harder for a higher number.

Other shooting techniques that are believed to maximize control over the outcome of the dice involve evidencing concentration and effort For example.

> One does not simply listlessly throw out the dice, check the combination they form, and quickly throw them out again, continuing until there is a significant result, a 7 or one's point This is what I did the first night I played, and an experienced player reacted to this by saying, "Take your time! Don't throw 'em out so fast! Take your time and work on it!" A short while later, this player instructed me more fully by saying, "Talk to 'em! Talk to 'em when ya shoot!"

It is obvious to the players that a throw can result in any point between 2 and 12. When one needs a certain point, one can increase one's chances of receiving it (although there is no guaranteed efficacy) by evidencing this required concentration, which consists of "taking one's time in shooting," of "workin' on it," and of "talkin' to the dice."

nauts of the Western Pacific* [New York E P Dutton & Co, 1950], p 396)

However, even though it is not the subject who generally states the principles, they are still the realities of his thinking, not that of the ethnographer The ethnographer discovers implicit principles of reality, not invents them Malinowski also states this well when he says "In arriving at such general conclusions about vast aspects of primitive human thought and custom, the Ethnographer's is a creative work, in so far as he brings to light phenomena of human nature which, in their entirety, had remained hidden even from those in whom they happened. It is creative in the same sense as is the construction of general principles of natural science, where objective laws of very wide application lie hidden till brought forth by the investigating human mind In the same sense, however as the principles of natural science are empirical, so are also the final generalisations of ethnographic sociology because, though expressly stated for the first time by the investigator, they are none the less objective realities of human thinking, feeling, and behavior" (*ibid*, p. 397).

"Talkin' to the dice" is an especially important and common technique. In the most frequently recurring form among these driver-players the shooter uses the point as a verb and commands the dice to deliver his point. As the dice are thrown, he says, "Five it!" or "Six it!" or "Eight it, Dice!" etc. A variant of this command is to divide the point into its component parts and reassemble it as the verb used to demand the desired results, such as, "Fifty-three, Dice!" (the shooter's point is 8, and he is calling for a 5-3 combination). "Thirty-two, Dice!" (for a point of 5), or "Sixty-four, Dice!" (for a point of 10), etc.

Another way of controlling the dice while shooting is for the shooter to snap his fingers after the dice are thrown and as they are rebounding from the backboard. It is as if the snapping of the fingers will bring the dice down on the desired point. Some shooters become so ritualistic about this that they never cast the dice without an accompanying loud snapping of their fingers. This, of course, could be attributed solely to habit with no meaning content to the shooter. Indeed, this is how it first appeared to me until I noticed the following particular form of this gesture:

> It sometimes happens that, after the dice are cast, one die will spin like a top on one of its corners. When this happens, the shooter will frequently point with his index finger close to the die, wait until the die has slowed down, and, just as it begins to fall to rest from the spin, loudly snap his finger against his thumb in an effort to control the resultant point.

Permeating the techniques of shooting that are defined as correct by these players is the requirement of confidence. In general, it is believed that confidence means success because confidence imparts control to the shooter. In order to exert control over the dice by using this principle, shooters will sometimes express supreme confidence in the outcome of their throw. This takes two forms: In one, the shooter, as he casts the dice, says, "There's a (desired point)!" In the other, as the shooter throws, he says, "Shoot the (amount of the bet)!" In bot forms, the shooter is confidently statin that the dice are going to come out favoı ably. In the latter, he is saying that he i going to win on this throw and that he is s confident of winning even the followin throw that he is going to let the mone ride, to double up on the bet, is not goin to "pull" any of his winnings.

Because it is believed that there is a clos connection between confidence and control the shooter must attempt to maintain hi confidence in order to maintain his contro over the dice. Accordingly, players wh have a vested interest in the positive out come of the throw—those who have be that the shooter will make his point—some times caution the shooter, saying, "Don't get shook!" This is very similar to state ments they make to a shooter that h should "take it easy" and "take his time, thus encouraging the shooter to maintain his control. Since it is believed that there is a skill basis to crapshooting, confidence is essential to maintain and practice this skill, and if the shooter were to "get shook," this would mean that he had lost his confidence, thereby being deprived of control and un able to make his point.[4]

V. MAXIMIZING CONTROL BY CORRECT BETTING

Not only is it thought by these players that the way the dice are thrown affects the outcome of the throw, but it is also believed that the bet itself can influence the dice. Included in this conviction are beliefs that the person with whom one places a bet, the person against whom one is betting, the amount of the bet, and the odds of the bet will change the combination that will appear on the dice, that is, the result of the

[4] Note how similar this statement is to those sometimes made in competitive sports, where a player must not "get shook" because he needs his self-control in order favorably to influence an outcome; e.g., in the closing seconds of an important basketball game a player has a free-throw that can decide the outcome of the game. "Time out" is called, and the player's coach or teammates encourage the shooter with this or a similar comment

throw would have been different if certain betting practices had or had not been followed.

The practical working-out of this belief leads to what appear to be bizarre forms of behavior, but they are consistent within this particular magical belief system. For example:

> At one game a bettor refused any of the "bet in the middle," i.e., money the shooter was offering as a bet He said, "I know that guy too well. I wouldn't put money agin him." Yet he made a "side bet" that the shooter would not make his point.

What is significant about this is that the bettor refused part of the "middle bet," that is, he would not accept the bet that the shooter was offering, but at the same time he was willing to accept and actually did accept a "side bet" against this same shooter. In either case, the bet and its outcome are objectively identical, that is, if the shooter were to win, this bettor would lose, and if the shooter were to lose, this bettor would win. *The outcome of the betting was unchanged, but what was changed was the person with whom the money was wagered.* Thus, negative results were foreseen if the bet were placed against the shooter by placing the money with the shooter, but positive results were foreseen if the bet were placed against the shooter by placing money with another player. (Indeed, in the latter case, he did not even define or view his bet as being against the shooter!)

Since these players are "rational in their irrationality," that is, they are logically consistent within their own framework of beliefs, and since it is also believed that control over the dice is never an absolute matter, but is something that is possessed in degree, that is, some people have more skill or control over the dice than do others, we should expect to find that players will be more ready to bet against those shooters to whom they attribute less skill and to bet with those shooters to whom they attribute more skill. This is precisely what happens: *Bets are refused or accepted on the basis of whom one is betting for or against.* Thus, if a player feels that a particular shooter has much control, he will almost always bet with him, never against him (unless there have been indications that his control is faltering), and vice versa. For example:

> One shooter had made several passes (successfully made his needed point) and then had finally lost. On his next turn as shooter, one player said, "I'd never bet agin'm Ya don t know what that motha's gonna do!"

And when a player who supposedly possesses less of this "power" makes his point, surprise is registered:

> R is the shooter. He has made one pass On his second attempt, he gets 8 as his point He makes the 8 and a player says, "Goddamn' He did'" R fails on his next try.

This type of betting is not thought to actually change the outcome of the dice, as do other practices above and below, but is, rather, a means of control in the view of these players; that is, it is thought to be a "rational" strategy by which players other than the shooter are able to maximize their profits.

VI. REGAINING CONTROL BY CORRECT BETTING

This belief concerning the effects of betting on the dice is held so strongly that there have developed betting strategies by which it is believed the shooter can regain control when he feels that he is losing his control over the dice. When the shooter is having a difficult time making his point, or has a difficult point to make, this is taken as a sign that he is losing control over the dice. There are three strategies that the shooter, when he is in this difficulty, can employ in order to favorably influence the dice. The first has to do with the size of the bet. It is believed that by increasing the size of the bet the shooter increases the likelihood that he will make his point. This often takes the form of increasing the bet after each inconsequential throw.

B was shooting. He had an 8, an easy point, but after shooting five times with no consequences (neither a 7 nor an 8 appeared), he put another dollar on the 8. He threw again, but with no results. He put another dollar on the 8. He threw again. Again he put a dollar on the 8. At this, a player commented: "He'll make it now. He put more money on it."

The second strategy shooters sometimes employ in this situation is to offer an odds bet at even money. Although 4's and 10's are two-to-one against the shooter, and the bet is ordinarily made at two-to-one odds or else is "barred," shooters will sometimes attempt to "force" the 4 or 10's appearance by offering bets at even money. As the following examples illustrate, players strongly believe that this type of betting does effectively influence the dice:

The shooter had 4 as his point. He shot for a long time with neither a 7 nor a 4 appearing. He made some bets at even money. Later one player said, "I've got one ya don't make it." Another added, "I've got one ya don't four." Another player, who had money bet against the shooter, became quite perturbed at this offer and said, "That'll guarantee that he'll make it! Don't you guys know that?"

In another game, the shooter had a 10 to make. He was taking bets at even money, and one player said to those who were accepting the bets, "Don't jump on those! Doncha know that's gonna make'm make it! Anytime ya jump on 4's and 10's the guy's gonna make it."

In the above examples, it at first appears strange that the shooter, whose betting is usually consistent with known odds, should become so irrational in his betting practice, but fortunately we do not have to guess at the reason for this "irrationality" because we have the players' own statements as to the meaning of the behavior for those involved. This behavior, although objectively irrational, is, again, logically consistent with and derived from their system of beliefs in magic. It is "rational irrationality."

It is possible that this type of betting practice is also related to the general principle mentioned earlier, that confidence imparts control over the dice. If it is so related, it would be consistent with this principle and could be interpreted in the following way: The shooter, by either increasing the size of his bet in an uncertain situation or by accepting even-money bet in a situation that calls for an odds bet, is attempting to manipulate the dice by expressing confidence backed by cash.

The third strategy bettors sometimes use is to make a bet for "odd money." There are two forms that this strategy takes. In one, the shooter says something like, "Shootin' a dollar an' a penny." He then lays a dollar bill down with a cent on top of it. It is believed that somehow or other the bet for "odd money" will influence the dice in his favor. The other form of the "odd money" bet is a "bet for change." For some reason, the shooter feels that it is in his interest to make the bet the exact amount that another player has in his hand or pocket, amount unknown. For example:

A player had taken a handful of silver from his pocket. It appeared that he had from $1 50 to $3 00 in change. The shooter, when he saw this, said:

Shooter: I'll bet whatever change ya got in your hand.

Player: Just a minute, I'll count it.

Shooter: No, no. Just whatever it is.

Player: A dollar [*meaning that he wants to bet a dollar of the change*]?

Shooter: No, no Whatever it is

In this third and also unusual strategy, the changed form of the bet, as initiated by the shooter, is believed to affect favorably the outcome of his attempt to make a point.

VII. LESSENING CONTROL OVER THE DICE

In examining some of the strategies which shooters use to overcome decreased control over the dice (see Part VI above), we saw that these players believe that control can be lessened. What are the specific ways that these players believe that this control becomes lessened, that is, what are the things that are viewed as negatively affecting the outcome for the shooter?

Certain of these ways have been implicitly included in the above analysis; for example, a lack of confidence and a lack of

concentration or evidence of "workin' at it" are viewed as having a negative effect on the shooter's control. In addition, *what happens to the dice themselves is viewed as affecting the outcome of a throw.* This involves "gettin' the points knocked off the dice," changing the dice, and dropping the dice.

For example, players believe that what happens to the dice when one player is shooting affects the outcome of the dice for the next shooter. When a shooter is making several straight passes, the player who will be the next shooter sometimes says, "They're gettin' the points knocked off 'em." In other words, in their view, there are just so many points that can be made on the dice. The present shooter is "knocking these points off the dice," which means that there will not be as many points left for the next shooter, and he is more likely to lose.

It is also believed that control over the dice is removed from the shooter when the dice are changed against the will of the shooter, as in the case of "lost dice":

> We were shooting against an upturned coke case in the back of the garage near the alley. P had made several passes He increased his bet and shot again. One of the dice hit the case, but the other missed and went under a cab It couldn't be found P was given a different die. He threw and lost. Disgusted, he said, "That did it! Changin' that dice there, that did it!"

In this type of situation, the shooter's will (to continue using the same dice) is not being followed, is frustrated (the dice are changed against his will), and this signifies that the dice are out of his control. With this situation, there appears to be no action the shooter can take to neutralize this effect.

Very similar to this belief is the belief that accidentally dropping one or both of the dice negatively affects the outcome of the next throw. These players believe that dropping the dice affects the dice in such a way that the point that was going to show up will not now show up. The reasoning seems to be the following: The shooter wants to control the dice. When the die or dice drop, this is an action or movement of the dice that is out of the control of the dropper: it is accidental, not purposeful. It is as if some external force (it surely was not the dropper, since he did not want it to happen!) is causing the dice to drop, to do something that the shooter does not want to happen.

VIII. OTHER METHODS OF REGAINING CONTROL

As we have seen, there are certain strategies, consistent with the belief system, by which shooters are able to overcome decreased control over the dice. Fortunately, from the players' view, there also exists a strategy (which could be called a form of "countermagic") to overcome the negative event of dropping the dice. Without exception, each shooter, after dropping the dice, rubs both dice on the ground or playing surface.

The players consider dropping the dice to be a bad omen. (As one player said when the shooter dropped a die, "You dropped your luck.") But this omen is not definitive: it can be overcome by rubbing the dice on the playing surface. Rubbing the dice is a means of regaining control, of placing the dice again in the control of the shooter. This rubbing on the playing surface neutralizes the negative effects of the drop and allows the dice to turn up the point they were going to turn up before the dropping took place.

Another form of rubbing the dice is also viewed as bringing positive results. Sometimes (but this is rare) the shooter will rub the dice on another player in order to favorably affect the dice. He will sometimes rub them under the chin of the player betting against him or on his clothing as an attempt to gain control.

Under certain circumstances, the shooter will attempt to regain control by means of making a promise concerning his next bet. When a shooter has a difficult point to make, usually a 4 or 10, or if he has an

B was shooting. He had an 8, an easy point, but after shooting five times with no consequences (neither a 7 nor an 8 appeared), he put another dollar on the 8. He threw again, but with no results. He put another dollar on the 8. He threw again. Again he put a dollar on the 8. At this, a player commented: "He'll make it now. He put more money on it."

The second strategy shooters sometimes employ in this situation is to offer an odds bet at even money. Although 4's and 10's are two-to-one against the shooter, and the bet is ordinarily made at two-to-one odds or else is "barred," shooters will sometimes attempt to "force" the 4 or 10's appearance by offering bets at even money. As the following examples illustrate, players strongly believe that this type of betting does effectively influence the dice:

The shooter had 4 as his point. He shot for a long time with neither a 7 nor a 4 appearing. He made some bets at even money. Later one player said, "I've got one ya don't make it." Another added, "I've got one ya don't four." Another player, who had money bet against the shooter, became quite perturbed at this offer and said, "That'll guarantee that he'll make it! Don't you guys know that?"

In another game, the shooter had a 10 to make. He was taking bets at even money, and one player said to those who were accepting the bets, "Don't jump on those' Doncha know that's gonna make'm make it' Anytime ya jump on 4's and 10's the guy's gonna make it."

In the above examples, it at first appears strange that the shooter, whose betting is usually consistent with known odds, should become so irrational in his betting practice, but fortunately we do not have to guess at the reason for this "irrationality" because we have the players' own statements as to the meaning of the behavior for those involved. This behavior, although objectively irrational, is, again, logically consistent with and derived from their system of beliefs in magic. It is "rational irrationality."

It is possible that this type of betting practice is also related to the general principle mentioned earlier, that confidence imparts control over the dice. If it is so related, it would be consistent with this principle and could be interpreted in the following way: The shooter, by either increasing the size of his bet in an uncertain situation or by accepting even-money bets in a situation that calls for an odds bet, is attempting to manipulate the dice by expressing confidence backed by cash.

The third strategy bettors sometimes use is to make a bet for "odd money." There are two forms that this strategy takes. In one, the shooter says something like: "Shootin' a dollar an' a penny." He then lays a dollar bill down with a cent on top of it. It is believed that somehow or other the bet for "odd money" will influence the dice in his favor. The other form of the "odd money" bet is a "bet for change." For some reason, the shooter feels that it is in his interest to make the bet the exact amount that another player has in his hand or pocket, amount unknown. For example.

A player had taken a handful of silver from his pocket It appeared that he had from $1 50 to $3 00 in change. The shooter, when he saw this, said:

Shooter: I'll bet whatever change ya got in your hand.

Player: Just a minute, I'll count it

Shooter: No, no Just whatever it is.

Player: A dollar [*meaning that he wants to bet a dollar of the change*]?

Shooter: No, no Whatever it is.

In this third and also unusual strategy, the changed form of the bet, as initiated by the shooter, is believed to affect favorably the outcome of his attempt to make a point.

VII. LESSENING CONTROL OVER THE DICE

In examining some of the strategies which shooters use to overcome decreased control over the dice (see Part VI above), we saw that these players believe that control can be lessened. What are the specific ways that these players believe that this control becomes lessened, that is, what are the things that are viewed as negatively affecting the outcome for the shooter?

Certain of these ways have been implicitly included in the above analysis; for example, a lack of confidence and a lack of

concentration or evidence of "workin' at it" are viewed as having a negative effect on the shooter's control. In addition, *what happens to the dice themselves is viewed as affecting the outcome of a throw.* This involves "gettin' the points knocked off the dice," changing the dice, and dropping the dice.

For example, players believe that what happens to the dice when one player is shooting affects the outcome of the dice for the next shooter. When a shooter is making several straight passes, the player who will be the next shooter sometimes says, "They're gettin' the points knocked off 'em." In other words, in their view, there are just so many points that can be made on the dice. The present shooter is "knocking these points off the dice," which means that there will not be as many points left for the next shooter, and he is more likely to lose.

It is also believed that control over the dice is removed from the shooter when the dice are changed against the will of the shooter, as in the case of "lost dice":

> We were shooting against an upturned coke case in the back of the garage near the alley. P had made several passes. He increased his bet and shot again. One of the dice hit the case, but the other missed and went under a cab. It couldn't be found. P was given a different die. He threw and lost. Disgusted, he said, "That did it! Changin' that dice there, that did it!"

In this type of situation, the shooter's will (to continue using the same dice) is not being followed, is frustrated (the dice are changed against his will), and this signifies that the dice are out of his control. With this situation, there appears to be no action the shooter can take to neutralize this effect.

Very similar to this belief is the belief that accidentally dropping one or both of the dice negatively affects the outcome of the next throw. These players believe that dropping the dice affects the dice in such a way that the point that was going to show up will not now show up. The reasoning seems to be the following: The shooter wants to control the dice. When the die or dice drop, this is an action or movement of the dice that is out of the control of the dropper: it is accidental, not purposeful. It is as if some external force (it surely was not the dropper, since he did not want it to happen!) is causing the dice to drop, to do something that the shooter does not want to happen.

VIII. OTHER METHODS OF REGAINING CONTROL

As we have seen, there are certain strategies, consistent with the belief system, by which shooters are able to overcome decreased control over the dice. Fortunately, from the players' view, there also exists a strategy (which could be called a form of "countermagic") to overcome the negative event of dropping the dice. Without exception, each shooter, after dropping the dice, rubs both dice on the ground or playing surface.

The players consider dropping the dice to be a bad omen. (As one player said when the shooter dropped a die, "You dropped your luck.") But this omen is not definitive; it can be overcome by rubbing the dice on the playing surface. Rubbing the dice is a means of regaining control, of placing the dice again in the control of the shooter. This rubbing on the playing surface neutralizes the negative effects of the drop and allows the dice to turn up the point they were going to turn up before the dropping took place.

Another form of rubbing the dice is also viewed as bringing positive results. Sometimes (but this is rare) the shooter will rub the dice on another player in order to favorably affect the dice. He will sometimes rub them under the chin of the player betting against him or on his clothing as an attempt to gain control.

Under certain circumstances, the shooter will attempt to regain control by means of making a promise concerning his next bet. When a shooter has a difficult point to make, usually a 4 or 10, or if he has an

easy point but has shot for a long time with inconclusive results, he is likely to say, "If I make (desired point), I'm gonna shoot (amount of the bet)." The shooter has viewed the difficult point or the prolonged attempt to make the easy point as a bad omen, as meaning that the dice have become "contrary" and are not going to yield the point without something extra, ergo, the promise. The shooter is really saying, "If you treat me right (by giving me the point), then I'll treat you right (by expressing confidence by money that you'll come out right the next time also)." The shooter is promising a future bet to the dice and is, in a sense, buying their favor.

This is a means of regaining control in that the shooter realizes that, since (*a*) he was trying for either a natural or a good point on his first throw and did not get it, or (*b*) he has an easy point, but he cannot make this easy point, as evidenced by his many inconsequential throws, that the dice are no longer in his control, that they are being moved by a will other than his. Therefore, since he can no longer control them by effort, he attempts to buy them off with this promise. (Note the similarity here with strategies one and two in Part VI above.)

There is consensus on the part of the players that this is a reasonable promise, the right thing to do, or almost an obligatory duty. Almost invariably when a player makes this promise, other players say, "Yeah, boy. If you make a (point), *you sure ought to*" or "I would, too." (It is as if the dice do not need to respond; and, therefore, if they respond, it is *gratia*, and this carries with it a reciprocal obligation in the subsequent betting.)

IX. MINIMIZING OTHER'S CONTROL

Since it is believed that the shooter exerts control over the dice and that strategies exist by which one can maximize control, if these players were consistent in their magical perspective, one would also expect to find strategies by which a betting opponent could minimize or negate the shooter's control. And this is what we do find.

One such strategy is an institutionalized practice known as "catching the dice." Anyone having part of the "middle bet" is permitted to grab the dice after they are thrown and before points show. When this happens, the throw is invalid, and the shooter must shoot again. When it appears to the bettor that the shooter has control, that is, the shooter either shows great confidence in the manner with which he is shooting or he has just had a string of successful passes, the bettor will "catch the dice." He believes that, if he does so at the right time, he will break the shooter's control and cause the shooter to lose. The following is an example of such strategy with an added unusual element:

> V was having a "hot streak" He was being faded by Pe. After V threw, Pe caught the dice Pe then slowly rubbed two sides of the dice against his greasy forehead and laid them on the table. V said, "Shit! I'm not gonna throw those fuckin' greasy dice now!" C, the houseman, then picked up the dice and wiped them on the sheet covering the table and gave them to V.
>
> V shot again. Again Pe caught the dice This time he slowly, exaggeratingly, and deliberately rubbed them in large circles on his forehead which was glistening with sweat He put them back on the table Again V made a similar comment. Again C wiped the dice and handed them to V.
>
> This happened four times The tension grew each time On the fifth time, Pe again caught the dice However, this time he made a rubbing motion *by* his forehead, but yet 2 or 3 inches from his forehead, rubbing the dice in the air in slow circles He then set the dice down and allowed V to complete his next shot.[8]

[8] The analogy with competitive sports is again apparent since this is essentially the same strategy sometimes used in competitive sports that are based on skill, e.g., basketball. When the opposing team is "hot," attempts will be made to "cool them off." Often the captain or coach will "call time out," which is used to re-plan strategy but is in itself part of the strategy to interrupt the action. The other team is "rolling," and their momentum needs to be slowed. The above action by Pe contains the same basic conviction and strategy.

The rational basis for this action is obvious: Since the shooter is exhibiting much control over the dice, as is evidenced by the number of passes he has made, the opponent attempts to break this control by interrupting the action and by "getting the shooter shook." The false premise for this otherwise rational act is not apparent to the actors.

X. THE INFLUENCE OF PERSONAL RELATIONSHIPS

Certain personal relationships of these crapshooters, relationships that appear completely unconnected and extraneous to crapshooting, are also believed to have an effect on the dice. The following incident illustrates one such relationship:

> One of the drivers is a "store-front preacher," and his Sunday activity is well known to the other drivers. He is known as "The Preacher" to the other drivers. One night The Preacher won heavily. It was his third straight night of winning. At one point, he made nine straight passes and just about broke up the game. At another point he made seven straight passes. The odds against one person doing this in a couple of hours are phenomenal. The reason for his winning was expressed by one player as: "He reads The Good Book." Later a player said, "Yessir! He's bettin' through The Book." And one player said, "When I get home . . . I'm gonna go home and read The Book myself."

Some sort of power (mana) is felt to reside in the Bible, and a person connected with the Bible (The Preacher) possesses from this association power over such things as dice. Those who do not have this association or connection do not have the same amount of power or control.

The continued incident above also illustrates a belief in a causal connection between need and winning:

> After the game, The Preacher counted his winnings and said, "I wouldn'ta played 'cept I'se in need." A player asked The Preacher if he really needed the money, and The Preacher replied that he needed it for the rent which was due tomorrow. The player then replied, "Oh, that's why you won."

XI. EXPLANATION OF NEGATIVE EVIDENCE

If players attribute control to the shooter when he is successful, how do they reconcile the fact that he is so often unsuccessful?

It is not believed that the shooter has perfect or full control. At best his control is partial, enough to make the outcome more favorable than chance would allow, or he has "streaks of control"—times when he feels that he "can't miss." Where there is failure, then, it is because he did not have *enough* control.

Failure does not represent "the absence of control" but, rather, that someone's or something's control over the dice was greater than that of the shooter's. It is never that it was merely chance.

> H had made two passes. This was better than he had been doing, and he began to feel confident. He increased his bet on his third attempt, but he threw craps. He said: "Why those motha fuckas! They'll turn around an' fuck ya in the ass every time!"

The negative result was not attributed to luck or chance, but to control possessed by the dice themselves. The speaker seems to be saying, in his colloquial fashion, that the dice will allow a certain amount of winning, and then when the shooter thinks he is going to hit it big, the dice turn around and show that they are in control.

XII. ORIGINATIONS OF THESE BEHAVIORS

Having examined the magical belief system of these crapshooters and having seen how their behavior is logically consistent within this belief system, one might ask how these beliefs and behaviors originated. Since, for the most part, these behaviors were not observed as they arose but only after they were in effect, what follows concerning originations is mostly theoretical and not empirical.

Magic has held the interest of scholars of varying fields for centuries, but it has traditionally been systematically studied by anthropologists, who have proposed varying theories concerning its origins and functions. One of the clearest theoretical formulations of the origin of magical be-

havior is a "theory of the gap," or a homeostatic theory, contributed by Malinowski. He said:

> Man, engaged in a series of practical activities, comes to a gap; the hunter is disappointed by his quarry, the sailor misses propitious winds, the canoe builder has to deal with some material which he is never certain that it will stand the strain, or the healthy person suddenly finds his strength failing . . . his anxiety, his fears and hopes, induce tension in his organism which drives him to some sort of activity. . . . His nervous system and his whole organism drive him to some substitute activity. . . . His organism reproduces the acts suggested by the anticipation of hope.[6]

Thus, according to Malinowski, the furious man clenches his fists and utters insults at a mental image of his enemy; or the lover addresses, entreats, commands, or presses the mental image of his beloved; or the fisherman or hunter utters the name of or describes a mental image of his desired catch or quarry. This passion allows the pentup physiological tension to flow over, the tension is spent, and the desired end seems nearer. The actor has regained his balance. These gestures, verbal and nonverbal, then become institutionalized, expected under given circumstances, and finally become supported by myth.

This homeostatic theory of the origin of magic may be diagrammed as in Figure 1.

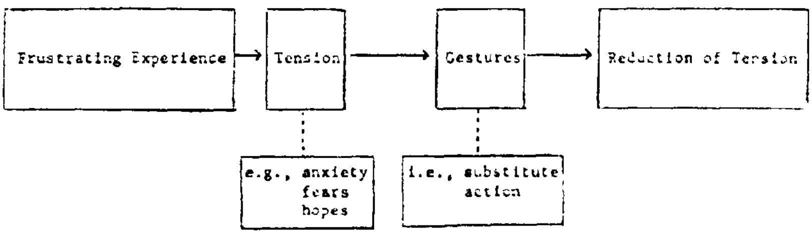


FIG. 1

These gestures are felt to bridge the gap, to be efficacious in bringing about the desired ends, and when practiced instrumentally, one has magic. Magic thus becomes "a body of purely practical arts, performed as a means to an end."[7]

According to Malinowski, since magic functions to reduce anxiety, to fill the void of the unknown, where there is no void or anxiety, neither is there magic. Thus, in situations where the native understands technology, he follows the technology and not magical practices and beliefs. For example, the Melanesians know that they must dig the soil to plant yams and must hoe to keep down the weeds. But beyond these skills are pests, animals, and climate which affect their crops. In these latter areas, they then employ magic (and religion) to control the unknown. These practices and beliefs are functional to the natives in that they restore their confidence.

The same thing holds true with fishing. When the native fishes in the lagoon, his yield is assured in relation to his effort, dangers are non-existent, and the empirical features of the situation are understood, ergo, no magic for lagoon fishing. But when these same Melanesians fish beyond the lagoon, when they go deep-sea fishing, then the empirical features are not understood, the yield is not assured, and great dangers exist. Thus there is much magic surrounding deep-sea fishing, and it functions to give the natives reassurance or to relieve

[6] Bronislaw Malinowski, *Magic, Science, and Religion* (Garden City, N.J.: Doubleday & Co., 1948), pp. 79–81. For another version of this argument, see Bronislaw Malinowski, "Culture," *Encyclopedia of the Social Sciences* (New York: Macmillan Co., 1931), IV, 621–46.

[7] Malinowski, *Magic, Science, and Religion*, pp 38 and 88.

their anxieties and thus allows them to continue this necessary activity.[8]

Kroeber disputes Malinowski's theory. If Malinowski were right, he says, then a people who face greater dangers will have more magic, but this does not hold true because the Eskimos, who have a much more dangerous life than the Melanesians, have less magic. And if two peoples have almost identical environments, they should have the same amount of magic, but this also does not hold true, because the Polynesians and Melanesians face about the same needs and problems, but the Polynesians have less emphasis on magic. And if a people have hardly any danger, they should have hardly any magic, but the Yurok and Karok Indians of California, who have plentiful resources of salmon and acorns, and who face neither foreign foe nor even pestilence, are completely circumscribed by magic.[9]

After refuting Malinowski's theory, Kroeber does not go on to develop an alternative theory to explain the origins of magic. Rather, he says that a magic and taboo system "is due to an orientation of the culture and has nothing to do with any necessities or actual problems. For some unknown reason the culture just had gone hypochondriac . . . they were taught by all their elders."[10] He concludes "that there is no relation of simple function between . . . needs rooted in the body and the mind or in the environment . . . and . . . magic."[11] Although Kroeber confesses that the reason for the origins of magic is unknown, he does make the point that magic continues as an element of a culture, that it is a taught and learned way of dealing with life.

I propose that it is possible to reconcile the basic features of the views of Malinowski and Kroeber, to relate these to the *origins of any magical behavior*, and in so doing to explain the origins and continuance of the system of magical behavior and beliefs of the crapshooters as examined above. This can be done by relating these views to the phenomenon of superstition as it has been studied in operant conditioning.

What the operant conditioners call "superstition" is the same as what I have called "magic." They are both characterized by instrumental behavior in which there is no empirical connection between the behavior and the ends; or, in operant terms, where the reinforcement is not contingent upon the behavior emitted, that is, where the reinforcer is not presented as a consequence of a particular response, and yet that response is meant by the behaving organism to be instrumental.

The essential components of superstitious behavior, where apparently irrelevant behavioral components are chained into an entire response pattern leading to reinforcement, were first noted by Guthrie and Horton. In teaching cats to move a pole that would open the door of their cage, they observed that if a cat happened to be backing up the first time it knocked down the pole, this backing-up behavior was adventitiously reinforced, and the cat continued to back up into the pole to operate the release mechanism.[12]

Superstitious behavior in animals was labeled as such and further studied by Skinner. He found that whatever behavior the animal is engaging in when he receives his reinforcement has a higher probability of occurrence on subsequent trials. This can result in rather bizarre forms of behavior.

> If a clock is now arranged to present the food hopper at regular intervals *with no reference whatsoever to the bird's behavior*, operant conditioning usually takes place. In six out of eight cases the resulting responses were

[8] *Ibid.*, pp. 30–31.

[9] Alfred L. Kroeber, *Anthropology, Culture Patterns and Processes* (New York: Harcourt, Brace & World, 1963), pp. 116–18.

[10] *Ibid.*, p. 117.

[11] *Ibid.*, pp. 117–18.

[12] Edwin Ray Guthrie and George P. Horton, *Cats in a Puzzle Box* (New York: Holt, Rinehart & Winston, 1946).

so clearly defined that two observers could agree perfectly in counting instances. One bird was conditioned to turn counter-clockwise about the cage, making two or three turns between reinforcements. Another repeatedly thrust its head into one of the upper corners of the cage. A third developed a "tossing" response, as if placing its head beneath an invisible bar and lifting it repeatedly. Two birds developed a pendulum motion of the head and body, in which the head was extended forward and swung from right to left with a sharp movement followed by a somewhat slower return.[13]

The conditioning process is usually obvious. *The bird happens to be executing some response as the hopper appears; as a result it tends to repeat this response.* If the interval before the next presentation is not so great that extinction takes place, a second "contingency" is probable.[14]

The application of these principles to crapshooters and their magical behavior is obvious. As a shooter is shooting, he is emitting various behaviors other than the throwing of dice. He may be saying certain things, moving his hands or other parts of his body in a particular way, etc. If, while doing this, the dice come up with a winning combination, this behavior is reinforced because of the close temporal connection between the occurrence of the behavior and the winning combination, and it will tend to be repeated. If it is repeated and is again reinforced before extinction takes place, the probability is that much greater that it will tend to continue. The individual will then think and act as if there were a causal connection between this behavior and his winning, will be engaging in magical or superstitious behavior.[15]

Skinner continues:

The experiment might be said to demonstrate a sort of *superstition. The bird behaves as if there were a causal relation between its behavior and the presentation of food,* although such a relation is lacking. There are many analogies in human behavior. Rituals for changing one's luck at cards are good examples. A few accidental connections between a ritual and favorable consequences suffice to set up and maintain the behavior in spite of many unreinforced instances.[16]

What is missing from this analysis thus far is that we are dealing here with human beings, and not pigeons or cats. The relevant difference is that humans live in a social context. Their behavior arises in a social context, and their behavior is reacted to by significant others who, in a social context, serve as reinforcers to their behavior, magical and non-magical.

As such, once non-instrumental behaviors are adventitiously reinforced and thought to be instrumental and are then practiced, they can become a part of the participant's culture—in this case, a part of expected crapshooting behavior. These behaviors are

[13] B. F. Skinner, "Superstition in the Pigeon," *Journal of Experimental Psychology*, XXXVIII (1948), 168 (italics in original).

[14] *Loc. cit.* (italics added)

[15] An excellent example of bizarre behavior in which the origination of the behavior is clearly demonstrated was brought to my attention by a sports announcement on KSD Radio of St. Louis, Mo., on October 6, 1966. The broadcast revealed how Jim "Cakes" Palmer, the Oriole pitcher, had received his nickname. It seems that "Cakes" had struck out four straight in a particular game and had happened to have had pancakes for breakfast that morning. Since that game, he has always had pancakes on the day he is slated to pitch. His pitching success during the 1966 World Series against the Los Angeles Dodgers, wherein he became the youngest pitcher ever to pitch a shut-out in a World Series, and when he again had pancakes for breakfast, of course, adventitiously reinforced this magical behavior; and one can predict that it will take a long history of a lack of reinforcement to extinguish this behavior.

This story was verified during an interview with Jim Palmer and his wife on "Supermarket Sweep" on ABC-TV on November 7, 1966. During this program, Mrs. Palmer added that he also carried three sticks of bubble gum in his back pocket whenever he pitched.

[16] Skinner, *op. cit.*, p. 171 (italics added). For more recent work in this area, see R. J. Herrnstein, "Superstition: A Corollary of the Principles of Operant Conditioning," in W. K. Honig (ed.), *Operant Behavior* (New York: Appleton-Century-Crofts, Inc., 1966), pp. 33–51.

then informally taught or transmitted to novices by the more fully socialized crapshooters. Each novice is indoctrinated into the prevailing magical behaviors. Since the crapshooter is being reinforced on a variable ratio reinforcement schedule—behavior dependent on this schedule being the most difficult to extinguish—it does not take much adventitious reinforcement for these magical behaviors to be maintained.

Magical behavior arises adventitiously; being reinforced it is informally taught in a social situation and accepted by the members; and being occasionally reinforced on a variable ratio reinforcement schedule, it maintains itself.

If one had complete control over contingencies of reinforcement, one should be able to produce magical behavior among crapshooters in the laboratory This would require control over the dice such that whenever the shooter was engaging in some behavior that the experimenter wished to become magical behavior, such as snapping his fingers, holding his hand above his head as he shot, uttering a particular word or phrase, etc , the experimenter could make certain that a winning combination appeared. By again reinforcing this behavior before extinction takes place, the shooter should come to engage in it frequently, associating the behavior with winning and thinking in terms of a causal connection (e.g., "I'm lucky when I do that"). The situation should then be such, now that the behavior is emitted frequently, that it will be adventitiously reinforced in the normal process of shooting craps and should maintain itself without the control of the experimenter. It would, of course, take a laboratory experiment to empirically prove or disprove this

In my field work I never saw pristine origination of magical behavior, but I did see such behavior informally taught by example and then adventitiously reinforced and maintained. Also, I was fortunate enough to be able to see a particular belief and practice arise which helps explain the origin of certain betting practices which are magical:

> I was down to my last 50¢. I took a 50¢ bet and won. I then took a $1 00 bet with the same bettor and won again I ended up running the 50¢ into $9 00 in a string of winning bets. About an hour later, when I was down to my last dollar, the man with whom I had placed the original 50¢ bet was offering a dollar bet that the shooter would make his point I said I would take the bet He refused to bet with me and then told everyone how I had started with a quarter and ended up with $9 50

He would accept the identical bet with anybody but me His losing against me and my successive successful wagers now placed me, in his view, on a different level than the other players. I was no longer "neutral" in his eyes, but I represented a "bad luck omen" (or a negative reinforcer) He defined the situation such that, if he made the bet with anyone else his chances of winning were good, but if he made the bet with me his chances of winning decreased.

Malinowski and Kroeber can be reconciled by applying these principles discovered in operant conditioning According to this view, Malinowski would not necessarily be correct in the details of his analysis, but the plausibility of what I take to be the main point of his analysis—that of reduced tension as being at the root of originations of magical behavior and beliefs—is compatible with the principles of operant conditioning That is, we will never know for certain if the Melanesians' magic arose precisely in the way Malinowski hypothesized, but in some way some particular behavior probably reduced tension, or at least was rewarding, thus being reinforced; and, again, in a similar situation it tended to be repeated, and in a social context it became an accepted ritual Because of the temporal relationship between the actions and some success, a causal connection is then believed and taught

Kroeber is right when he says, contrary to Malinowski, that the reasons for any given magical practices in a culture are unknown, that they are not dependent upon

necessities or dangers, that there is no relation of simple function between needs and magic. However, this "unknown reason," as explicated in this paper, is adventitious reinforcement of some behaviors somewhere in the past, these behaviors becoming ritualized within a social context, being occasionally reinforced, and thus being maintained as part of the culture. According to this analysis, then, contrary to Kroeber's logical deduction from Malinowski, there does not have to be a linear or even a direct relationship between the amount of danger and the amount of magic within a culture or between cultures. This relationship does not have to exist because magical behavior does not originate on a one-for-one basis of danger to magic; rather, the reinforcement of behavior—and thus the continuance of that behavior in ritual—would not be dependent upon the amount of danger present in a given culture, but would be dependent upon adventitious reinforcement.

Washington University at St. Louis

Fit of Individual and Community Characteristics and Rates of Psychiatric Hospitalization[1]

Henry Wechsler and Thomas F. Pugh

ABSTRACT

A study was conducted of all first admissions to inpatient care in licensed Massachusetts mental hospitals during a three-year period, centered around the 1960 Census, to test the hypothesis that people with a particular personal characteristic who are living in communities where that characteristic is less common should have a higher rate of psychiatric hospitalization than people with the characteristic living in communities where it is more common. The findings give substantial support to the "fit" hypothesis studied. Within the fifteen tests of the hypothesis, the rates were in the predicted direction in eleven; and in the eleven, the difference in nine was statistically significant. Specifically, the hypothesis was supported for people with the following characteristics, living in towns grouped according to the proportion of the population having that characteristic: (1) younger (15-34 years), (2) medium age (35-54), (3) married, (4) Massachusetts born, (5) born elsewhere in the United States, (6) professional workers, (7) craftsmen, (8) operatives, and (9) persons of unknown occupation.

Epidemiologic methods are used to localize determinants of the distribution of non-infectious as well as infectious disease.[2] Descriptive studies of mental disease using these methods have indicated, with respect to personal characteristics, that older persons have higher rates of hospitalization for mental disorders than younger persons; single persons, higher rates than married persons; and persons of lower occupational or socioeconomic status, higher rates than persons from middle or upper social classes.[3] Prior indications that foreign-born persons and native-born persons who move within the United States have higher rates than others[4] are no longer as consistent, but there are indications that the increasingly mobile non-white population in the United States has had progressively higher rates of psychiatric hospitalization.[5]

A prototype of studies focused on place of occurrence, rather than on personal characteristics, is that of Faris and Dunham[6] in Chicago in 1930–31, which indicated that higher rates of schizophrenia occurred among people living in the central areas of the city where there were lower socioeconomic neighborhoods than in the

[1] Supported by grant MH 06599 from the National Institute of Mental Health. An earlier version of this paper was presented at the Sixth World Congress of Sociology—Research Committee on Psychiatric Sociology—Evian (France), September 4-11, 1966.

[2] B. MacMahon, T. F. Pugh, and J. Ipsen, *Epidemiologic Methods* (Boston: Little, Brown & Co., 1960).

[3] B. Malzberg, *Social and Biological Aspects of Mental Disease* (Utica, N.Y.: State Hospitals Press, 1940); N. A. Dayton, *New Facts on Mental Disorders* (Springfield, Ill.: Charles C Thomas, 1940); E. G. Jaco, *The Social Epidemiology of Mental Disorders* (New York: Russell Sage, 1960); A. B. Hollingshead and F. C. Redlich, *Social Class and Mental Illness* (New York: John Wiley & Sons, 1958).

[4] B. Malzberg and E. S. Lee, *Migration and Mental Disease: A Study of First Admissions to Hospitals for Mental Disease, New York* (New York: Social Science Research Council, 1939–41).

[5] T. F. Pugh and B. MacMahon, *Epidemiologic Findings in United States Hospital Data* (Boston: Little, Brown & Co., 1962).

[6] R. Faris and H. W. Dunham, *Mental Disorders in Urban Areas* (Chicago: University of Chicago Press, 1939).

peripheral areas where the neighborhoods had higher socioeconomic status.

Such studies, dealing with the spatial distribution of mental disorders, have been strongly criticized. First is the criticism that the properties of an area do not necessarily indicate the properties of the individuals who become ill in it.[7] To avoid this problem requires simultaneous consideration of the characteristics of the individual and those of the community in which he resides. Second is that the findings may reflect a selective migration of persons with psychiatric disorders, rather than the operation of etiologic factors. Thus, the problem of "drift"[8] should be considered in the interpretation of the findings of such studies.

The study presented here is based on the idea that ready availability of a peer group facilitates the formation of interpersonal relationships and that its relative lack hampers the formation of such relationships. The latter situation is assumed to be associated with a greater degree of stress and social isolation than the former and to be more conducive to the production of mental disorders.

Although the formulation is familiar, the present study avoids the two problems just cited by considering both the type of community and the type of person as they interact in influencing rates of hospitalized mental disorder and by having, as well, a built-in examination of the influence of "drift."

Specifically, the hypothesis tested is that people with a particular personal characteristic who are living in communities where that characteristic is less common should have a higher rate of psychiatric hospitalization than people with the characteristic living in communities where it is more common—that is, people who do not "fit" in a community should have a higher rate than those who do.

Rates based on "fit" with respect to age, marital status, place of birth, and occupation provide four general areas for testing the hypothesis. These are shown in Table 1. Within the four areas, fifteen tests of the hypothesis were made.

METHOD

All first admissions to inpatient care in licensed Massachusetts mental hospitals, fifteen years of age and older, during the three-year period from October 1, 1958 to September 30, 1961, are included. These comprise 24,934 patients admitted for the first time to a universe of twenty-nine hospitals (thirteen state, twelve private, and four Veterans Administration).

The patients were categorized as to their place of residence in the 351 cities and towns in Massachusetts at the time of initial hospitalization. Information was also recorded on age, marital status, birthplace, and, for males, occupation.

Special tabulations from the U.S. Bureau of the Census provided the following data on the population of each of the 351 cities and towns as of April 1, 1960: (1) age, (2) marital status, (3) place of birth, (4) occupation for males. These tabulations were needed because population data in detail are not routinely published by the Bureau of the Census[9] for individual minor civil divisions. The tabulations obtained gave age and marital status simultaneously; this permitted adjustment for one when the other was being examined. The tabulations of place of birth and occupation permitted adjustment for age. Simultaneous adjustment for place of birth, occupation,

[7] J. A. Clausen and M. L. Kohn, "The Ecological Approach in Social Psychiatry," *American Journal of Sociology*, LX, No. 2 (September, 1954), 140–51.

[8] D. L. Gerard and L. G Houston, "Family Setting and the Social Ecology of Schizophrenia," *Psychiatric Quarterly*, XXVII (January, 1953), 90–101, R. LaPouse, M. Monk, and M Terris, "The Drift Hypothesis and Socioeconomic Differentials in Schizophrenia," *American Journal of Public Health*, XLVI (1956), 978–86.

[9] U.S. Bureau of the Census, "U.S. Census of Population: 1960, Detailed Characteristics, Massachusetts" (Final Report PC(1)-23D [Washington, D.C.: U.S. Government Printing Office, 1962]).

and marital status was not possible with the material obtained.

Because of the extremely high rates of psychiatric hospitalization among residents of the city of Boston compared to rates in the other cities and towns, and because of its very large size, Boston was eliminated from the analyses presented.

The remaining 350 cities and towns were grouped, with respect to each of the four variables listed (age, marital status, place of birth, and occupation [males]) into the 56 (16 per cent) with the highest proportion, the 238 (68 per cent) with the intermediate proportion, and the 56 (16 per cent) with the lowest. For example, when the "fit" hypothesis was tested for young persons (those between the ages of fifteen and thirty-four years), towns were grouped into the 56 with populations having the highest percentages of young persons, the 238 with the intermediate percentages, and the 56 with the lowest. Thus, the towns were arranged separately into three groups for each of three ages, into three for each of three marital status groups, into three for each of three nativity groups, and into three for each of six occupations. In addition to providing material for fifteen tests of the "fit" hypothesis, these groupings of towns also generated forty-eight comparisons of the possible influence of the groupings which did not bear directly on the hypothesis.[10]

Adjustment for differences in the marital status composition of the populations was made when rates were calculated for town groups according to age, adjustment for differences in age composition was made when rates were calculated for towns grouped with respect to the marital status, place of birth, and occupation of their populations. The adjustment for age used seven ten-year intervals (15–24, 25–34, . . . 75+) and that for marital status used three categories (married; single; and widowed, separated, and divorced).

The general formula for the adjusted rates is the familiar $(O/E) \times R$, where O is the observed number (first admissions to

TABLE 1

TESTS OF THE "FIT" HYPOTHESIS

Population Group	Higher Rates in Towns with	Lower Rates in Towns with
1 Age		
Younger persons (15–34)	Fewer young persons	More young persons
Medium-aged persons (35–54)	Fewer medium aged persons	More medium aged persons
Older persons (55 and over)	Fewer older persons	More older persons
2 Marital status:		
Married	Fewer married persons	More married persons
Single	Fewer single persons	More single persons
Widowed, separated, and divorced	Fewer widowed, separated, and divorced	More widowed, separated, and divorced
3 Place of birth:		
Massachusetts	Fewer Massachusetts born	More Massachusetts born
U.S., not Massachusetts	Fewer U.S., not Massachusetts born	More U.S., not Massachusetts born
Foreign born	Fewer foreign born	More foreign born
4 Occupation:		
Professional	Fewer professionals	More professionals
Craftsmen	Fewer craftsmen	More craftsmen
Clerical and sales	Fewer clerical and sales	More clerical and sales
Operatives	Fewer operatives	More operatives
Service workers and laborers	Fewer service and laborers	More service and laborers
Unknown	Fewer unknown	More unknown

[10] $([3 \times 3] + [3 \times 3] + [3 \times 3] + [6 \times 6]) = 63$; and $63 - 15 = 48$.

mental hospitals), E the expected number, and R the rate for all persons, without respect to any characteristic other than their inclusion in the study. The expected number (of first admissions) is the sum of the numbers obtained by applying category-specific rates to the same categories

TABLE 2

RATES OF FIRST ADMISSION TO MASSACHUSETTS MENTAL HOSPITALS BY AGE (IN YEARS) IN TOWNS WITH DIFFERENT AGE COMPOSITIONS*

Towns Grouped by Percentage of Population	Rates per 100,000 Population per Year for Persons in Specified Age Groups		
	15–34	35–54	55 and Over
A. Young (age 15–34):			
Low	198 1†	222 4	218.1
Medium	182 6	218 5	219 5
High	147 6†	223 1	210 6
B. Medium age (35–54):			
Low	182 0	256 0†	231 8
Medium	178 7	215.9	216.7
High	163.5	193 4†	205.3
C. Older (55 and over):			
Low	115 6†	180 5†	178 4†
Medium	185.1	222 4	221 0
High	192 9†	227.8†	219.6†

* Rates adjusted for marital status.

† Rates having statistically significant differences between towns grouped as low and high.

of the population at risk of such admission. Confidence limits were obtained by use of the formula:

$$R \times \frac{(O \pm M\sqrt{O})}{E},$$

where M equals 1.960 for the .05, 2.576 for the .01, and 3.291 for the .001 probabilities of statistical significance, respectively.

FINDINGS

The findings which follow compare the rate in towns with a high proportion of the population having the characteristic being examined with the rate in towns having a low proportion of the characteristic.

I. AGE (TABLE 2)

1. Younger persons (15–34 years) had a higher rate of first admission to mental hospitals in towns where there was a low proportion of young persons than in towns where the proportion was high ($p < .001$).

2. Medium-aged persons (35–54 years) had a higher rate in towns where there was a low proportion of medium-aged persons than in towns where there was a high proportion of them ($p < .001$).

3. However, persons in the older age groups (55 years and over), as well as the younger and medium ages, each had a lower rate in towns that had a low proportion of older persons than in towns where the proportion was high ($p < .001$, $< .01$, and $< .05$, respectively).

II. MARITAL STATUS (TABLE 3)

1. Married persons had a higher rate in towns that have a low proportion of married persons than they did in towns where the proportion was high ($p < .001$). And, conversely, married persons had a lower rate in towns that had a low proportion of single persons than in towns with a high proportion ($p < .001$).

2. No statistically significant difference is found for single persons in towns grouped according to the proportion of single persons.

3. Both married and single persons had higher rates in towns that had a high proportion of widowed, separated, and divorced persons than in towns with a low percentage ($p < .01$ and $< .001$, respectively).

4. No difference is found for widowed, separated, and divorced persons in towns grouped according to the proportion of widowed, separated, and divorced persons.

III. PLACE OF BIRTH (TABLE 4)

1. Massachusetts-born persons had a higher rate in towns where there was a

low proportion of them than in towns where there was a high proportion ($p < .001$).

2. Persons born in the United States outside of Massachusetts had a higher rate in towns where they were in low proportion than in towns where the proportion was high ($p < .01$). In harmony with this finding—since the foreign born formed a small fraction of the total population while the other two components were both large—persons born in the United States outside of Massachusetts had a lower rate in towns where the proportion born in Massachusetts was low ($p < .01$).

TABLE 3

RATES OF FIRST ADMISSION TO MASSACHUSETTS MENTAL HOSPITALS BY MARITAL STATUS IN TOWNS WITH DIFFERENT MARITAL STATUS COMPOSITION*

Towns Grouped by Percentage of Population	Rates per 100,000 per Year for Persons in Specified Marital Status Groups		
	Married	Single	Widowed, Separated, and Divorced
A Married:			
Low	194.3†	269.7	283.5
Medium	166.4	263.6	269.4
High	144.0†	241.8	293.8
B Single:			
Low	149.4†	262.8	274.3
Medium	163.7	264.3	274.2
High	199.0†	267.3	277.6
C Widowed, separated, and divorced:			
Low	145.1†	158.2†	276.3
Medium	177.5	266.0	274.8
High	171.6†	285.1†	276.5

* Rates adjusted for age.

† Rates having statistically significant differences between towns grouped as low and high.

3. Foreign-born persons, however, as well as those born in Massachusetts and in the United States outside of Massachusetts, each had a lower rate in towns where the foreign-born population was in low proportion than in towns where it was high. In two instances out of the three—for the rate of the Massachusetts born and that of persons born elsewhere in the United States—the difference is statistically significant ($p < .001$ and $< .01$, respectively).

TABLE 4

RATES OF FIRST ADMISSION TO MASSACHUSETTS MENTAL HOSPITALS BY PLACE OF BIRTH IN TOWNS WITH DIFFERENT PLACE-OF-BIRTH COMPOSITIONS*

Towns Grouped by Percentage of Population	Rates per 100,000 per Year for Persons in Specified Place-of-Birth Groups		
	Massachusetts Born	U.S., Non-Massachusetts Born	Foreign Born
A Massachusetts born			
Low	224.9†	154.1†	190.6
Medium	212.1	186.6	214.2
High	188.7†	200.0†	173.2
B U.S., non-Massachusetts born			
Low	212.9	191.7†	207.4
Medium	203.3	182.0	200.1
High	183.9	143.5†	186.7
C Foreign born			
Low	163.8†	136.3†	163.9
Medium	186.2	160.6	195.1
High	230.7†	194.4†	216.0

* Rates adjusted for age.

† Rates having statistically significant differences between towns grouped as low and high.

IV. OCCUPATION (TABLE 5)[11]

1. Professional workers had higher rates in towns where there was a low proportion of them than in towns where their proportion was high ($p < .01$).

2. Clerical and sales workers had a higher rate where there was a low proportion of them than in towns where the proportion was high, but the difference is not statistically significant. An additional finding with towns so grouped is that both craftsmen and persons with unknown occupations had lower rates in towns with a

[11] This analysis is restricted to males aged 25-64 years.

low proportion of clerical and sales workers than in towns with a high proportion ($p < .001$ and $< .05$, respectively).

3. Craftsmen had a higher rate in towns where they were in low proportion than in towns where their proportion was high ($p < .01$). An additional finding with towns so grouped is that operatives had their proportion was high, but the difference is not statistically significant.

6. With towns grouped according to the proportion with unknown occupation, the rate for persons of unknown occupation was high where there was a low proportion of persons of unknown occupation and low where the proportion was high ($p < .01$).

TABLE 5

RATES OF FIRST ADMISSION TO MASSACHUSETTS MENTAL HOSPITALS BY OCCUPATION IN TOWNS WITH DIFFERENT OCCUPATIONAL COMPOSITIONS

(MALES, AGES 25–64 YEARS)*

Towns Grouped by Percentage of Population	Rates per 100,000 per Year for Persons in Specified Occupational Groups					
	Professional	Clerical and Sales	Craftsmen	Operatives	Service and Laborers	Unknown
A. Professional.						
Low	197.9†	206.7	163.4	198.1	506.4	459.9
Medium	148.9	202.1	175.7	202.0	505.7	486.1
High	134.2†	205.0	132.0	246.2	475.9	424.0
B Clerical and Sales						
Low	172.7	334.9	70.4†	184.4	427.4	192.8†
Medium	156.9	202.4	175.3	194.1	497.5	468.9
High.	142.8	203.3	162.8†	250.3	533.7	512.7†
C Craftsmen						
Low	141.1	227.2	209.5†	266.7†	547.8	527.8
Medium	155.1	199.4	174.9	200.8	506.2	469.2
High	154.4	199.5	111.7†	174.4†	410.3	380.3
D Operatives						
Low	146.5	219.5	138.4	289.3†	498.5	365.8
Medium	149.8	207.4	174.2	207.1	514.6	479.5
High	186.9	152.2	160.6	171.2†	453.7	543.7
E. Service and Laborers.						
Low.	127.3	162.0	105.0	183.4	477.6	346.8
Medium	154.5	209.9	179.1	207.2	523.8	484.8
High	192.7	188.9	132.3	160.7	352.7	485.1
F. Unknown:						
Low	99.4†	122.2†	129.1†	132.5	281.6†	1558.7†
Medium	149.6	200.5	162.4	206.0	509.1	500.8
High	185.1†	243.6†	220.0†	204.6	517.7†	353.3†

* Rates adjusted for age

† Rates having statistically significant differences between towns grouped as low and high

higher rates in towns with a low proportion of craftsmen than in towns with a high proportion.

4. Operatives had a higher rate in towns where they were in low proportion than in towns where their proportion was high ($p < .01$).

5. Service workers and laborers had a higher rate in towns where there was a low proportion of them than in towns where

The rates for all categories of workers with known occupation, however, were lower when there was a low proportion of workers of unknown occupation than when the proportion was high ($p < .01$ for professionals, $< .05$ for clerical and sales, $< .001$ for crafts, and $< .01$ for service workers and laborers. Although not statistically significant for operatives, the difference is in the same direction).

SUMMARY OF FINDINGS

The findings give substantial support to the "fit" hypothesis studied, namely, that people with a particular characteristic, who are living in areas where the characteristic is less common, should have higher rates of hospitalization for mental disorder than people with that characteristic who are living in areas where the characteristic is more common. Within the fifteen tests of the hypothesis, the rates were in the predicted direction in eleven; and in the eleven, the difference in nine was statistically significant. Specifically, the hypothesis was borne out in a convincing fashion for people with the following characteristics who are living in towns grouped according to the proportion of the population having that characteristic: (1) younger (15–34 years), (2) medium age (35–54), (3) married, (4) Massachusetts born, (5) born elsewhere in the United States, (6) professional workers, (7) craftsmen, (8) operatives, and (9) persons of unknown occupation.

Rates in a direction opposite to that proposed by the hypothesis occurred in one statistically significant instance out of the fifteen tests: when towns were grouped according to the proportion of older persons (fifty-five years and over). However, the phenomenon was a general one. Rates for all three age groups were significantly lower in towns with low percentages of old people. Similarly, rates for Massachusetts- and United States-born persons were significantly lower in towns with low percentages of foreign born, and rates for married and single persons were significantly lower in towns with low percentages of widowed, separated, and divorced persons.

Neither agreement nor disagreement with the hypothesis was observed when towns were grouped by the percentages of single persons.

An unexpected but interesting finding involved persons of known occupation who are living in towns grouped by the proportion having unknown occupation. Here, people with known occupation had a lower rate in towns where the percentage of unknown occupation was low than in towns where the percentage was high. Also unexpected were the significantly lower rates among craftsmen and men with unknown occupation in areas where the proportion of clerical workers was low.

INTERPRETATION AND DISCUSSION

Although the findings of the present study appear consistently to support the "fit" hypothesis, interpretation of the results should take the following considerations into account:

1. *Index of mental illness*.—The index was initial psychiatric hospitalization. Thus, findings may reflect patterns of mental hospital use and not "true" rates of illness. Rates of first admission to inpatient care, however, measure incidence rather than prevalence and thus avoid the complicating variable of duration of illness.

2. *Simultaneous consideration of individual and community characteristics*.—Research on the spatial distribution of mental illness is justly criticized when it assumes that patients coming from a certain region necessarily have personal characteristics similar to those of the bulk of the residents in it. Here the problem is absent because of the simultaneous consideration of the characteristics of the region and of its patients. The fact that there was a negative relationship between risk of hospitalization and similarity to other residents of towns indicates that patients from an area were not representative of the population of that area—that is, the patients and the towns did not "fit."

3. *Drift hypothesis*.—This hypothesis states that persons becoming mentally ill, or who have certain characteristics predisposing them to become ill, gravitate toward lower socioeconomic neighborhoods. Were this hypothesis to be supported by the data presented here, one would expect the rate of professional workers in areas where there are relatively many service workers and laborers to exceed the rate of professional workers in areas where there are relatively many professional workers, since profes-

sional workers have the highest median income and service workers and laborers the lowest.[12] Similarly, one would expect the rates of clerical and sales workers and of craftsmen to be higher in areas with relatively many service workers and laborers than in areas with relatively many professional workers. In none of these cases does examination of Table 5 show significant difference in such a direction.

4. *Etiologic interpretations*.—If this study has significance with respect to the etiology of mental disorders, then thought about mechanisms which might explain the findings is important. Is it that persons living in areas where fewer residents are similar to them are under special stress from social isolation, and thus at a greater risk of mental disorders? Or is it that persons living in communities where more are similar to them are somehow protected from stress by being provided with enough peer relationships to decrease risk of mental disorders?

Without respect to etiology, a study similar to this one would be useful in determining whether the current situation of desegregation in the United States follows the pattern of the "fit" hypothesis. Do Negroes living in predominantly white areas have a higher rate of psychiatric hospitalization than Negroes in segregated areas? If this is the case, more strenuous efforts toward providing social supports for Negroes moving into predominantly white neighborhoods would seem mandatory.

THE MEDICAL FOUNDATION, INC., AND SCHOOL OF PUBLIC HEALTH, HARVARD UNIVERSITY
AND
MASSACHUSETTS DEPARTMENT OF MENTAL HEALTH AND SCHOOL OF PUBLIC HEALTH,
HARVARD UNIVERSITY

[12] U.S. Bureau of the Census, *op. cit.*

RESEARCH NOTE

A Simulation of the *SIVA* Model of Organizational Behavior[1]

The purpose of this paper is to describe several computer simulations of an analytical (conceptual) model of a system which exemplify how simulation can provide an economical test of the internal consistency of such models. "An analytical model is a mental construct consisting of a set of elements in interrelation, the elements and their interrelations being precisely defined."[2] One basic test of a model is its internal consistency. If the model is not internally consistent, the amount of simplification that it achieves and its apparent isomorphism to real world events are less meaningful as criteria by which to judge that model. By "internal consistency" is meant simply that the underlying assumptions and propositions of the model are non-contradictory and that the model behaves in the way defined by those assumptions and propositions.

It is difficult, if not impossible, to make such a test of a model which is constructed in the literary or qualitative mode unless a translation can be made into the mode of formal operational statements. Such an operational model may be purely mathematical, a mechanical or similar analogue, or any type of process which creates a dynamic working representation of the conceptual model in which the entities and variables are replaced by operational equivalents for the purpose of evaluating over-all system performance.

[1] The author gratefully acknowledges the constructively critical comments of Harold Guetzkow and support from the Danforth Foundation of St. Louis, Mo.

[2] Everett E. Hagen, "Analytical Models in the Study of Social Systems," *American Journal of Sociology*, LXVII, No 2 (September, 1961), p. 144 (also quoted by Theodore Caplow, *Principles of Organization* [New York: Harcourt, Brace & World, 1964], p. 16).

Theodore Caplow[3] has proposed a "single analytical model" of organizational behavior which he conceives to be culture free, that is, applicable to organizational situations which differ greatly in scale and outward appearance but which are thought to have the same basic pattern—a pattern activated when two or more individuals having some common and some disparate goals engage in joint action The model is limited to four variables for which Caplow uses the letters *S*, *I*, *V*, and *A* as a mnemonic device to indicate the similarity of different aspects of these four variables which are thought to be basic to the organization in action The *S* variable refers to some aspect of the relative *strength* of the parties, the *I* variable refers to the degree of their mutual *influence* within the relevant action system, the *V* variable measures the *volitional* component of the situation, and the *A* variable measures the results of the joint *action* of the parties within the relevant context."[4]

The purpose of the model is to predict the changes that will occur in the entire system composed of these variables, each of which is a function of every other, when a change in any one variable is imposed from the outside. The model is one of dynamic equilibrium and is assumed to have the property of "stability in the small"; that is, "a minor change in *S*, *I*, *V* or *A* imposed by an outside force tends to be followed by a series of successive changes the ultimate effect of which is to restore the initial values of the variables."[5]

Caplow has presented four different sets of such *SIVA* variables which represent different levels and/or situations of organizational life but which were meant to conform to a single set of functional inter-

[3] *Op. cit.* [4] *Ibid.*, p 10 [5] *Ibid* p 104

relationships within the generalized model, namely, (1) co-operation of a pair of individuals within an organization,[6] (2) organizational effectiveness,[7] (3) the socialization process of the individual within an organization,[8] and (4) situations of conflict.[9] The most basic level (co-operation in a dyad) will be considered here as typical of how the different levels may be operationalized.

The pair relationships between any two positions in an organization are given as: *S*tatus (the quantitative differential ability to modify the other's behavior in a dyadic interaction), *I*nteraction (the mutual influence resulting from symbolic communication between a pair of organizational positions), *V*alence (a measure of desire for interaction, mutual attractiveness, or interpersonal affect), and *A*ctivity (a measure of goal-relevant progress or output—as opposed to effort or imput).[10] For purposes of applying the model, it is assumed that all such relationships can be measured and averaged within an organization. The twenty-four cells in Table 1 present the fundamental interrelationships of the model as given by Caplow. There are also four basic assumptions (in addition to the assumptions of dynamic equilibrium and stability in the small):

1. Changes in interaction are proportional to changes in activity, taking into account that more interaction is normally developed for a given amount of activity than is absolutely required.

2. The interaction between an unequal pair is proportional to the amount of their joint activity and inversely proportional to the status difference between them.

3. The valence between a pair of interacting peers fluctuates proportionately with their interaction.

4. The valence between a pair of unequals fluctuates unpredictably as their interaction changes.[11]

It might be thought that the most advantageous form in which to operationalize the literary model would be an "exact" mathematical representation in the form of a set of simultaneous differential equations. This type of approach has been exhibited by the Simon-Homan model of interaction in social groups[12] and is an excellent example of the way in which differential cal-

TABLE 1

FUNDAMENTAL INTERRELATIONSHIPS OF THE *SIVA* MODEL: A MODEL OF THE PAIR RELATIONSHIP IN AN ORGANIZATION

Direction of Change	Resulting Tendency*			
	Status	Interaction	Valence	Activity
Status plus ..		Minus	Indeterm.	Plus
Status minus		Plus	Indeterm	Minus
Interaction plus .	Minus		Plus	Plus
Interaction minus	Plus		Minus	Minus
Valence plus .	Indeterm	Plus	..	Plus
Valence minus .	Indeterm.	Minus		Minus
Activity plus	Plus	Plus	Plus	.
Activity minus	Minus	Minus	Minus	

* In one variable at a time, holding the others constant.

Source Caplow *op cit*, p. 105.

[6] *Ibid*, pp 102-3

[7] *Ibid*, pp. 121-24.

[8] *Ibid*. pp. 170-72.

[9] *Ibid.*, pp 326 30.

[10] *Ibid*, pp 102 ff

[11] *Ibid.*, p. 105.

[12] Herbert A. Simon, "A Formal Theory of Groups," *Models of Man* (New York: John Wiley & Sons, 1957).

culus can be used to translate from the literary to the operational mode of model demonstration. Although the elegance of such precise treatment is appealing, less precise methods often prove more economical for complex models, especially where the model contains a large number of feedback loops and concommitant constants (or parameters) to be specified—and at no particular loss given the present "state-of-the-art" in organizational theory-building. Simulation as a technique, as we shall see, works admirably under such circumstances, since a few runs of the simulation using different sets of parametric values which are deemed of interest often provide sufficient answers to the questions being asked (e.g., regarding internal consistency of the model). In the present case, by making the not-unrealistic assumption of a discrete time delay between a change in one variable and the corresponding effect on the others, a set of linear iteration equations can be utilized which are suitable as constraints for a digital computer simulation of the conceptual model.[18]

Although it is not necessary, it is helpful in the translation process to draw a "flow chart" of the relationships described by the conceptual model. Figure 1 depicts the essential feedback relationships of the analytical model given by Caplow. The relationship of input to output of each *SIVA* variable is taken as unity, and the *K*'s represent constants of proportionality or multiplication factors. The conventions of Figure 1 are such that (*a*) all relationships are directional as shown; (*b*) output is plus (+) if the algebraic sum (Σ) of the inputs is plus, and (*c*) plus (+) output is used as minus (−) input elsewhere if so indicated.

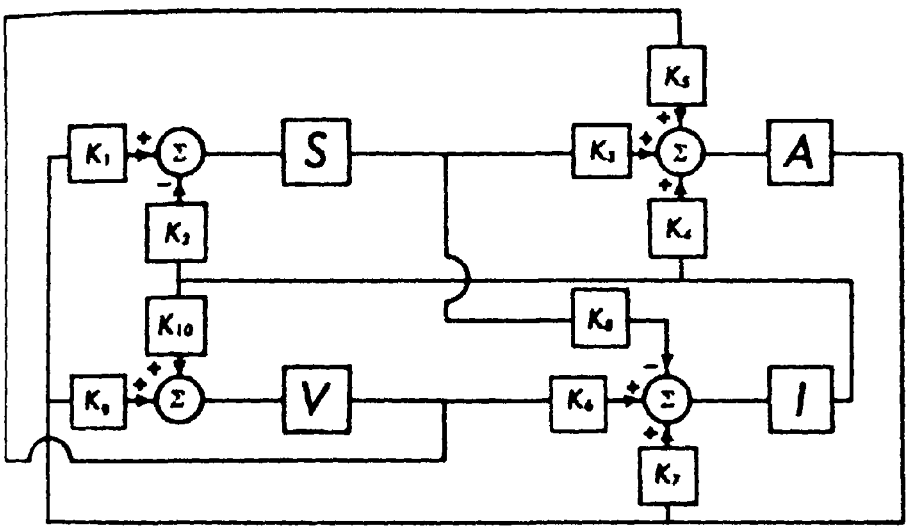


FIG. 1.—Flow chart of the functional *SIVA* interrelationships

[18] Readers who are not familiar with the concept of iteration can think of it as an identical process (in this case a set of equations) which is successively reapplied. E.g., consider how much money accumulates in a piggy bank if we express *A* as the amount added, *T* as the total accumulated, and *N* as the number of equal periods of time (perhaps a week) in which money was added. Then $T_n = T_{n-1} + A_{n-1}$; or verbally: The total amount in week *n* equals the total amount for week $n - 1$ plus the amount which was added in week $n - 1$, i.e., the total amount of money in week *n* is obtained by *iterating* the equation ($T_n = T_{n-1} + A_{n-1}$) *N* times, where *n* takes on the values 1, 2, 3, . . . *N*.

by a minus sign at that input. The system is shown as closed; therefore the input of any particular variable is the algebraic sum of the outputs of the variables which feed into it, each multiplied by its appropriate constant of proportionality.

Letting n denote the time period or cycle of iteration, the following equations can be written which functionally define the model as operationalized.

$$S_n = K_1 A_{n-1} - K_2 I_{n-1}\,; \qquad (1)$$

$$A_n = K_3 S_{n-1} + K_4 I_{n-1} - K_5 V_{n-1}\,; \quad (2)$$

$$I_n = K_6 V_{n-1} + K_7 A_{n-1} - K_8 S_{n-1}\,; \quad (3)$$

$$V_n = K_9 A_{n-1} - K_{10} I_{n-1}\,. \qquad (4)$$

The simulation consists of assigning a set of initial values to the parameters and constants, followed by iterating equations (1)–(4) until: (*a*) an equilibrium point is established, (*b*) the system goes into "stable oscillation" (the values taking on a series of values which recur cyclically), or (*c*) the system "blows up" with no convergent trend of the variables being observed.[14] Following this initial simulation, *if* result (*a*) "equilibrium" is found, additional simulations may then be made to test the assumptions of stability of the "large" or "small" by making large or small initial changes (from the equilibruim values) to one variable at a time and then iterating the equations to see if the equilibrium points which result are identical or different from those obtained in the initial simulation.

TABLE 2

SIMULATION RESULTS OF THE *SIVA* MODEL*

N	S	I	V	A
0	1	1	1	1
1	0	1	2	3
2	2	5	4	3
3	− 2	5	8	11
4	6	21	16	11
5	− 10	21	32	43
6	22	85	64	43
7	− 42	85	128	171
8	86	341	256	171
9	−170	341	512	683
10	342	1,365	1,024	683

* All constants equal to unity.

In the first simulation, the *SIVA* variables and the proportionality constants were all set equal to unity in order to test the primary assumption that the system can attain equilibrium. As the results in Table 2 show, the system "blows up," that is, the variables tend to increase without limit. We may therefore conclude that the *SIVA* model as put forth by Caplow is internally inconsistent since it is unstable—a violation of the basic assumption of dynamic equilibrium (except, of course, for all variables set equal to zero, which is a trivial case).

The reason for this instability is quite clear: most of the feedback loops are of the "positive" or regenerative type; that is, increased output is fed back as increased input leading to an explosive increase in the magnitudes of the system variables. With reference to Figure 1, we can see that the only "negative"-feedback loops are from *I* to *S* and *S* to *I*—since an increase in the magnitude of *I* causes a decrease in the magnitude of *S* and vice versa. All others are positive; for example, *V* contributes positive feedback to *I*, since an increase in *V* leads to an increase in *I*, which in turn leads to a further increase in *V*.[15]

The theoretical requirements for feedback system stability have been well ex-

[14] The computer programs which were used to carry out the described simulations are given in the Appendix.

[15] It should be pointed out that several simplifying assumptions were made by the writer in the development of this simulation:

1. The assumption of constant factors of proportionality does not exactly follow the "analytical" model. Caplow (*op. cit.*, p. 106) made the additional assumptions that "the greater the status difference of an interacting pair, the less the interaction that will accompany a given amount of joint activity, and the less the change in the volume of interaction that will follow a given change in activity. Viewed another way, if the status difference is increased, a greater increment of activity will follow a given increment of interaction."

These additional constraints (if simulated) would have applied to assumptions 1 and 2, which

plored, mostly for linear systems of which the *SIVA* model is a complex example.[16] In general, however, system stability requires properly regulated negative feedback (where an increase in a controlled output produces changes leading to a reduction in output, and vice versa).

In general, this paper has not considered the external validity of the analytical model, since the purpose was rather to demonstrate a test of its internal consistency. However, since the demonstrated instability of the *SIVA* model may have some external validity, this may be at least briefly considered. Chadwick Haberstroh has reported that "this requirement [of negative feedback for stability] is frequently violated in the design of organizations. The most typical information and control processes, performance reporting and incentive compensation are intended mainly to produce motivational pressure in the individual members. Better performance leads to greater rewards; greater rewards lead to better performance. From a control viewpoint, this implies infinite gain and explosive instability in the system. The result in practice is rate-busting, breakdown, or an informal adaptation to counter the positive feedback effect."[17] While the variables that Haberstroh refers to are not identical to those used by Caplow, the results from a systems viewpoint are the same—as the simulation of the *SIVA* model has shown.

Therefore, while the *SIVA* model may have some external validity, it remains internally inconsistent as presently defined. As we have seen, the needed modification is clear. Assuming that the positive-feedback-type system is empirically justified or required, some means of controlling the positive-feedback effects (from driving the variables beyond their defined limits) is necessary—*if* stability is to be one of the properties of the model.

Such a modification could take either of two forms: (*a*) a secondary set of functional interrelationships could apply when

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were given above on p. 340. Stated mathematically, they are:

$$\Delta I \propto \Delta A \text{ (applicable to assumption 1)} \quad \text{(a)}$$

$$I \propto A \text{ (applicable to assumption 2)} \quad \text{(b)}$$

(where Δ represents a difference or change, e.g., $\Delta I = I_n - I_{n-1}$, and the proportionality factor *decreases* as S increases), and

$$A \propto I \quad \text{(c)}$$

(where the proportionality factor *increases* as S increases).

Considering first expressions (a) and (b), it can be seen (by tracing the feedback paths of the flow chart, Fig. 1) that a decrease in the value of either I or ΔI for a given value of A or ΔA (with increasing S) will serve to *decrease* the negative feedback to S, thereby actually contributing *more* to the instability of the system (since relationships [a] and [b] would increase the magnitude of S still further). (The effects on the other *SIVA* variables follows the same pattern of increased instability for both relationships [a] and [b].) It therefore seemed justifiable to make the simplifying assumption of constant K factors.

2. Caplow (*ibid.*, p. 107) further states: "An important implication of the model, one not apparent at first glance, is that when one of the variables cannot change in the expected direction, another variable must change by a greater than expected amount to maintain the equilibrium . . . In relations between unequals in which other multipliers are at work, a very small increase in interaction may be followed by an enormous increase in either valence or activity if only one of them is free to vary. In any case, variation can occur only over a narrow range. Each of our four variables has definite upper and lower limits in most organizational relationships."

The writer fails to see how this can be an implication of the model; rather, it must be an additional assumption or constraint. Be that as it may, however, it is to be expected that, had this feature been included in the simulation, the system would have still gone unstable, since, as one after the other variable would have "upper limited" itself, the load would have shifted (in some unspecified manner) to the other variables, which in turn, would have gone to their defined limits.

[16] See, e.g., Robert N. Clark, *Introduction to Automatic Control Systems* (New York: John Wiley & Sons, 1962). Also, a treatment of this problem in which these requirements are explicitly solved for is given in the previously cited Simon-Homan model.

[17] Chadwick J. Haberstroh, "Organization Design and Systems Analysis," in James G. March (ed.), *Handbook of Organizations* (Chicago: Rand McNally & Co., 1965), p. 1177. This chapter contains an excellent introduction to and description of control systems concepts as related to organizational behavior.

any or all of the variables reach their defined limit (a discontinuous model which could illustrate such organizational policies as wage or quota ceilings, etc.); or (*b*) the functional interrelationships could themselves be made continuously variable in such a manner as to provide greater "effective" feedback as a function of summed or individual variable magnitudes (illustrative of the ubiquitous principle of "decreasing returns"). Either modification would, of course, require redefinition of the basic functional interrelationships of the analytical (conceptual) *SIVA* model as set forth by Caplow.

As a heuristic example, the second (continuous) case was used to modify and resimulate the *SIVA* model where the proportionality factors were, in fact, made a linear function of "nearness of variable magnitude to defined limits." The functions may take the well-known ($Y = mX + b$) form of a straight line which in this case becomes:

$$K_n = K_0 - \left(\frac{K_0}{D}\right)(V_n - V_0), \quad (5)$$

where ($V_n - V_0$) is the deviation in the nth iteration (time period) of the particular variable from its initial value and D is the maximum "pre-set" limit "allowable" for such a deviation.

For the initial condition in which $V_n = V_0$, $K_n = K_0$; and where $(V_n - V_0) = D$, $K_n = 0$. The essential property of this modification is that when the quantity ($V_n - V_0$) becomes greater than the allowable deviation, D, the needed negative feedback is provided to drive the variable back toward its initial value. Finally, to insure that K will drive the variable back toward its initial value even if the quantity ($V_n - V_0$) is negative, the absolute value (the positive numerical value regardless of sign) is used for this quantity. Thus equations (6)–(9) were joined with equations (1)–(4) (the K_n being recalculated in each iteration cycle) as an attempt to provide a stabilizing control to constrain the system variables to within the pre-set limits of $\pm D$.[18]

$$K_{\alpha_n} = K_{\alpha_0} - \frac{(K_{\alpha_0})(|A_n - A_0|)}{D} \quad (6)$$

$$K_{\beta_n} = K_{\beta_0} - \frac{(K_{\beta_0})(|I_n - I_0|)}{D} \quad (7)$$

$$K_{\gamma_n} = K_{\gamma_0} - \frac{(K_{\gamma_0})(|S_n - S_0|)}{D} \quad (8)$$

$$K_{\delta_n} = K_{\delta_0} - \frac{(K_{\delta_0})(|V_n - V_0|)}{D} \quad (9)$$

The results of one of the trials of the heuristic simulation thus obtained are shown in Table 3, which portrays how the proportionality factors adjust until equilibrium is reached.[19] One should not conclude, however, that such variable feedback constraints are infallible for insuring system stability.[20] For example, given the initial values of Table 3 with only a change in A_0 from 1.0 to 2 0, the system was just reaching oscillatory stability at $n = 30$. By using these same initial values, but with a $D = 3$ (rather than $D = 5$ as was previously done) the system went into unstable oscillation, and all variables had reached absolute magnitudes in excess of 1,000 by $n = 15$. By noting that a smaller value of D represents a narrower range of permissibles values (narrower limits)of the variables, it is seen that it will produce a

[18] For simplicity, all K parameters (now variables in the heuristic model) which stemmed from a single variable were equated, e g, $K_n = K_1 = K_7 = K_9$, and the K_{n-1} are used with the nth iteration of the *SIVA* variables

[19] It may be noted that the stability thus obtained still does not conform to Caplow's assumption of "stability in the small" (but rather is "stability in the large"), since a resimulation of these equations which would start with the values of the variables which stabilized in the prior simulation would in turn stabilize at a *different* set of values.

[20] It is very difficult and economically unfeasible to derive a mathematical expression which gives a unique set of parametric limits for stability in a system which contains so many feedback loops For this reason, complex control systems in the physical sciences are also often subjected to simulation as a means of determining parametric limits for system stability.

"stronger" negative-feedback signal for a given case than will the wider range. This new type of system instability, then, is due to systematic overreaction to corrections, that is, "the correction to the correction is too large." An industrial example of this phenomenon is the sequence: "low production; pressure to produce; reduction of maintenance to push production; major breakdown leading to exclusive attention to maintenance and low production; pressure to produce leading to neglect of maintenance and so on."[21]

In the present instance, simulation of the *SIVA* model indicated that it was unstable and showed that at least one type of modification is possible by which the model can be made to be conditionally stable, hence internally consistent. That these results are indeed obtainable in spite of the fact that "we shall need more specification on those [*SIVA*] variables in order to test hypotheses"[22] is indicative of the power and utility of simulation as a technique in the art of model-building—even in instances such as the present one, where the complexity of the model (a large number of feedback loops and constants to be specified) makes the differential calculus-type treatment (such as Simon[23] used on the Simon-Homan model) impractical. One might also infer from these results that simulation or an equivalent method of operationalization of a conceptual model should be undertaken *before* hastily proceeding to the "hypothesis-testing" stage of that model's development.

TABLE 3

SAMPLE RESULTS OF THE HEURISTIC SIMULATION OF THE *SIVA* MODEL WITH VARIABLE FEEDBACK

N	S	I	V	A	K_a	K_b	K_1	K_2	[illegible]
0	1.000	1.000	1.000	1.000	2.000	1.000	1.000	1.000	5.000
1	1.000	2.000	3.000	3.000	1.200	0.800	1.000	0.600	
2	1.000	4.400	5.200	4.400	0.640	0.320	0.800	0.160	
3	1.408	2.048	4.224	3.840	0.864	0.790	0.918	0.355	
4	1.609	3.525	4.936	4.412	0.635	0.495	0.860	0.213	
5	1.057	2.391	4.547	4.256	0.607	0.722	0.989	0.291	
6	1.243	3.245	4.694	4.092	0.763	0.551	0.951	0.261	
7	1.335	3.166	4.911	4.196	0.721	0.567	0.933	0.218	
8	1.233	2.852	4.822	4.110	0.756	0.630	0.953	0.236	
9	1.312	3.068	4.903	4.107	0.757	0.586	0.938	0.219	
10	1.311	2.955	4.909	4.105	0.758	0.609	0.938	0.218	
11	1.312	2.954	4.911	4.100	0.760	0.609	0.938	0.218	
12	1.316	2.955	4.915	4.099	0.760	0.609	0.937	0.217	
13	1.317	2.950	4.916	4.099	0.760	0.610	0.937	0.217	
14	1.318	2.949	4.917	4.099	0.761	0.610	0.936	0.217	
15	1.318	2.949	4.917	4.099	0.761	0.610	0.936	0.217	
16	1.318	2.948	4.917	4.099	0.761	0.610	0.936	0.217	

Therefore, while Caplow states that there is an upper and a lower limit within which the *SIVA* variables are free to vary, we see that there is a lower limit to that *range* as well *if* variable feedback of the type described is used to modify the *SIVA* model.

In conclusion, we see that not only do simulations of the types described provide a means of testing the internal consistency of an analytical model which has been described in the literary mode—they also provide information regarding the types of modifications necessary for that model to become internally consistent.

O. W. MARKLEY

Northwestern University

[21] Haberstroh, *op. cit.*; V. F. Ridgway, "Dysfunctional Consequences of Performance Measurements," *Administrative Science Quarterly*, I (1956), 240-47.

[22] Edward Gross, "A Review of Theodore Caplow's *Principles of Organization*," *American Journal of Sociology*, LXXI (1966), [illegible].

[23] *Op. cit.*

APPENDIX

The computer programs for the simulations were written in FORTRAN. In both programs, $X(I)$ corresponds to I_n, $S(I)$ to S_n, etc. In the second (heuristic) program, the following equations are necessary to be consistent with the text: $K_1 = K_\alpha$; $K_2 = K_\beta$; $K_3 = K_\gamma$; and $K_8 = K_\delta$:

```
      PROGRAM SIVASIM1
C     INITIAL SIVA SIMULATION WITH 10 ITERATIONS.
      DIMENSION S(11), X(11), V(11), A(11)
    7 READ 1,S(1),X(1),V(1),A(1),K1,K2,K3,K4,K5,K6,K7,K8,K9,K10
    1 FORMAT (4F6.1,10I5)
      IF (EOF,60)9,8
    8 N = 0
      PRINT 2
    2 FORMAT (*1    N    S    I    V    A    K1    K2    K3    K4    K
     15    K6    K7    K8   K9   K10 *)
      PRINT 3,N,S(1),X(1),V(1),A(1),K1,K2,K3,K4,K5,K6,K7,K8,K9,K10
    3 FORMAT (1X,I4,1X,4(F5.0,1X),10(I5,X))
      DO 4 I = 2,11
      S(I) = K1*A(I - 1) - K2*X(I - 1)
      A(I) = K3*S(I - 1) + K4*X(I - 1) + K5*V(I - 1)
      X(I) = K6*V(I - 1) + K7*A(I - 1) - K8*S(I - 1)
    4 V(I) = K9*A(I - 1) - K10*X(I - 1)
      DO 5 I = 2,11
      J = I - 1
    5 PRINT 6,J,S(I),X(I),X(I),V(I),A(I)
    6 FORMAT (1X,I4,1X,4(F5.0,1X))
      GO TO 7
    9 STOP
      END
```

```
      PROGRAM SIVAHSIM2
C     HEURISTIC OF SIVA. SIMULATION WITH 30 ITERATIONS.
      DIMENSION S(31),X(31),V(31),A(31),K1(31),K2(31),K3(31),K5(31)
      TYPE REAL K1,K2,K3,K5
    7 READ 1,S(1),X(1),V(1),A(1),K1(1),K2(1),K3(1),K5(1),D
    1 FORMAT (10F7.3)
      IF (EOF,60)9,8
    8 N = 0
      PRINT 2
    2 FORMAT (*1     N     S     I     V     A     K1     K2
     1 K3          K5          D *)
      PRINT 3,N,S(1),X(1),V(1),A(1),K1(1),K2(1),K3(1),K5(1),D
    3 FORMAT (1X,I4,1X, 9(F7.3,1X))
      DO 4 I = 2,31
      S(I) = K1(I - 1)*A(I - 1) - K2(I - 1)*X(I - 1)
      A(I) = K3(I - 1)*S(I - 1) + K2(I - 1)*X(I - 1) + K5(I - 1)*V(I - 1)
      X(I) = K5(I - 1)*V(I - 1) + K1(I - 1)*A(I - 1) - K3(I - 1)*S(I - 1)
      V(I) = K1(I - 1)*A(I - 1) + K2(I - 1)*X(I - 1)
      K1(I) = K1(1) - ABSF(A(I) - A(1))*K1(1)/D
      K2(I) = K2(1) - ABSF(X(I) - X(1))*K2(1)/D
      K3(I) = K3(1) - ABSF(S(I) - S(1))*K3(1)/D
    4 K5(I) = K5(1) - ABSF(V(I) - V(1))*K5(1)/D
      DO 5 I = 2,31
      J = I - 1
    5 PRINT 6,J,S(I),X(I),V(I),A(I),K1(I),K2(I),K3(I),K5(I)
    6 FORMAT (1X,I4(1X,8(F7.3,1X)))
      GO TO 7
    9 STOP
      END
```

BOOK REVIEWS

The Theory and Design of Economic Development. Edited by IRMA ADELMAN and ERIK THORBECKE. Baltimore: Johns Hopkins Press, 1966. Pp x + 428. $12 95.

Kenneth Boulding has somewhere suggested that theories of growth often have great similarities in different disciplines. This is a book of various mathematical approaches to economic growth. Except for the rare sociologist of modernization who has the old-fashioned notion that economic growth has something to do with it, the substance of the book will be of little interest to the discipline. Since one cannot read it without a fair degree of mathematical sophistication, it will have a small audience On the other hand, its mathematical form lays bare the basic elements of logical structure of the theories and so allows us to follow Boulding's strategy of trying to suggest the translation of logical forms from economic growth theory to growth processes in sociology. In this review, I will try to outline briefly the core logical structure of various theories in the book and to suggest social phenomena to which similar theories might apply. I will omit treatment of one empirical paper on the relative merit of two growth models, and a wild stochastic model.

In the first paper, we have a two-sector theory in which the growth of one sector provides a "surplus" which can be used as an input to another sector. The interest is in the relation between rates of increase of production and consumption in the first sector and changes in size and structure of the second sector. This might apply to race relations, with the "surplus" being an increase in the welfare of the dominant groups. Or it might apply to the growth of suburbs as influenced by growth of jobs, and growth of housing, in central cities Certain formal aspects of such theories are given in the Fei and Ranix paper and in Marlin's comment on it.

A second type of theory, developed by Fei and Chiang with commentary by Tang, conceives growth to be the resultant of inputs to two interacting "factors." One of the factor's contributions to total growth increases at an increasing rate with the first units of input, then increases at a decreasing rate with further inputs. The other factor's contribution increases at a decreasing rate for all levels of input. Such a model might apply to the growth of emotional intensity of the two parties to a seduction. The authors add considerations of population growth at the end of the model, and the final section is called "The Relaxation Phenomenon."

A paper by Uzawa, which strikes my untutored mind as being mathematically the deepest and most original in the book, considers growth in a two-sector system where one sector is parasitic and battens on the growth of the other. As is characteristic of Chicago economists, Uzawa calls the parasitic sector "public," the endogenously growing sector "private" My own impression is that the reverse nomenclature would more nearly approximate most underdeveloped countries The parasitic sector bears a mathematically stable relation to the size of the growing sector. It can get its food from the growing sector by either of two policies (concretely, taxation or inflation), which affect the behavior of components of the growing sector differently The problem of Uzawa is to determine the optimum mix of these two patterns of feeding over time. I am doubtful of sociological applications, partly because I cannot think of an economy in which his assumptions have even a remote relation to reality He assumes, for instance, that the effects of taxation and inflation on capital and labor incomes are the same, that people's preferences for public goods are affected only by the general burden of the parasitic sector and not by how much they personally pay, that people do not expect technical change and hence discount the future only with respect to rates of growth of capital, that capital growth does not take place in the public sector, and a number of others that seem to me outrageous. I have not studied the paper with sufficient care to see which of these are essential, which matters of mathematical simplicity. I presume that pieces of the mathematics might be useful in the

general analysis of parasitic growth processes. McFadden's alternative presentation of the theory in his "Comment" is easier to understand and perhaps should be read first.

Chenery and MacEwen develop a two-sector model in which one sector exchanges with the environment, the other produces for internal consumption. The main question they address is how variations in the richness of the environment over time (concretely, the pattern of foreign aid) affect the rate and pattern of growth. Briefly, early richness of environment allows internally determined growth parameters to work on a larger base and hence contributes more heavily to growth than later richness. With estimated empirical parameters, the model is applied to the determination of optimum aid patterns for Pakistan. Such theories might apply to intellectual growth of individuals (richness of early intellectual environment), the growth of the economic base of cities within a country (richness of investment or comparative advantages in natural resources), or the growth of families (e.g., explaining why entrepreneurs, who have lean years at first and richer years later, have smaller families than professionals).

An empiricist approach to constructing a model of the Peruvian economy by Thorbecke and Condos results in a theory in which growth is determined almost entirely by the relation of the growing entity to the environment. Concretely, the amount of exports and the terms of trade for exports dominate in a system of linear regression equations on the Peruvian economy. This illustrates the statistical principle that the independent variables with highest variance dominate in regression problems, but seems to me not to give rise to a theory useful as a general approach to growth. Goldberger, in his comment on the paper, complains of this lack of endogenous growth processes—specifically that investment does not apparently affect output in Peru(!). The general point is that studies of growth in highly variable environments do not much refine growth theory as such.

Dudley Seers, and Bergsman and Manne, introduce what is essentially an ecosystem model of growth. Each species (industry) requires certain increases in inputs to grow, part of which it gets by feeding on other industries, part from the environment ("rest of world"). Foreign exchange and professional manpower seem to be the scarce foods. The economic tradition for this kind of theory is the Leontieff input-output matrix, modified by some non-linear relations and some substitution possibilities. Alan S. Manne, in something of a tour de force, constructs an elaborate model of this kind for Mexico, then explores the strategy of growth which minimizes capital costs for a given aggregate effect, with varying relative weights for foreign and domestic costs. There are some 446 "species" in Manne's theory.

Karl Fox's comment on a paper by Adelman and Sparrow teaches a number of shortcuts for reducing these elaborate input-output matrixes to their essential structure, and is perhaps the most useful nine pages in the book. The paper itself explores how the growth of different linear functions of the basic "species" are constrained by their input-output interdependence and how non-linearity affects such structures. Michael Bruno's fascinating paper applies this disaggregated or ecosystem approach to derive curves relating growth variables at a high level of aggregation to environmental resource variables at a high level. That is, instead of saying, as Adelman and Sparrow do, that the model is "quite" sensitive to certain variations, it uses this sensitivity analysis to describe gross relationships between the growing entity (Israel) and its environment (concretely, I guess, American Jewry and German reparations, which allow it to run a trade deficit).

Heady, Randhawa, and Skold elaborate the ecosystem-type model by considering that the over-all environment consists of subenvironments with markedly different characteristics. In different subenvironments, the relative rates of growth of different activities will vary, depending on the comparative advantage of those subenvironments for the growth of particular "species." This notion is applied to an enormous mass of detail on American agriculture and to much less detail on Indian agriculture. Adelman, in the final paper, applies the same general ecosystem strategy to the problem of optimum educational investments. This introduces the notion of lagged inputs from one "species" (e.g., primary education) to another (e.g., secondary education). Her results suggest that in Argentina vocational secondary education is without economic value,

something that vocational students in this country have suspected for a long time.

I have treated all these ecosystem models without sociological examples because they have the same basic logical core. This is some variant of a Leontieff input-output matrix. Usually in economic applications some function of the inputs and outputs is maximized or minimized, subject to constraints, to obtain an optimal solution. Probably most sociological applications of such a basic model will not involve much of this optimization and consequently little linear programing. But any set of distinct activities and any set of "species" for which the total quantity of some is interdependent with the total quantity of others will have a growth process that can be approximated by a Leontieff-type matrix. These might include, for example, various homework and extracurricular activities in a high school or college, "export industry" and "service industry" labor forces in cities, aggregate votes for parties in a multiparty electoral system (some parties expand at the expense of certain other parties), and so forth. In this connection, it may be useful to point out to faint hearts that economists are not shy about guessing at coefficients with remarkably little data.

In sum, there are many models here to choose from for purposes of constructing growth theories of various features of various types of social systems. There is no longer any excuse for letting demographers have all the growth theory in sociology.

ARTHUR L. STINCHCOMBE

University of California, Berkeley

Societies: Evolutionary and Comparative Perspectives. By TALCOTT PARSONS. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966. Pp. viii + 120. $3.95.

This book is small only in number of pages. A great many things are undertaken. Some turn out well, and others fall short.

First of all, this is one book in a series, Prentice-Hall's "Foundations of Modern Sociology." The whole set is intended as supplementary reading for introductory courses or as a replacement for a textbook. Parsons' special assignment was to write on the analysis of whole societies. He meets this assignment by considering the variations among societies, seeking to describe them by means of a coherent set of analytic characteristics. In this book he employs differences in evolutionary level to guide his choice of appropriate characteristics. As he proceeds, he provides his reader with the most extended discussion he has yet given on the subject of total societies. He also reviews and clarifies the theory of action and, within it, the theory of a social system. He sketches a procedure for employing these theories to interpret evolution. Finally, he uses the resultant analytic ideas to describe the evolutionary positions of nine societies ranging in complexity from the Australian aborigines to Rome, Greece, and ancient Israel. (A sequel is promised that will contain descriptions of the evolutionary status of modern societies.)

Other instructors may find I am wrong, but I doubt that one introductory student in a hundred can grasp the essentials of Parsons' second chapter without considerable advance acquaintance with his vocabulary and his style of thought. (This second chapter presents the theoretical bases for his descriptions. Readers already in the know will find it clear and tightly organized. For others, it will be too compressed to be understood.) But, no matter. Only a very little of this material is actually employed in later chapters—the chapters describing societies at various evolutionary levels. That little can be given our students in lecture. They can subsequently enjoy chapter i and the elegant architectonic of chapters iii through vii.

The "empirical" chapters read especially well. The nine societies given most attention are described in amazing detail and, in most cases, with as much accuracy as the best general histories afford the sociologist, who depends upon them. And there are, at several points, provocative new interpretations, especially those concerned with the meaning of great constitutive myths.

This would, however, be a stronger text were the impression not given that most of the essential facts are known and that most of the essential questions are answered. Students are thereby deprived. They will not appreciate that the glory and challenge of such understanding as we have is that it bridges so much

uncertainty with adventurous theoretical proposals; they will not confront the difficulties of "making-do" with fragments of knowledge and with barely relevant observations. (The tenuous character of the evidence is obscured in this book by Parsons' not calling it to his readers' attention and by his presenting as established fact the speculative reconstructions of authorities on several societies. Wilson on Egypt, Frankfort on Mesopotamia, Saggs on Babylon, Finley or Glotz on Athens—to mention only a few.)

Considered theoretically, Parsons has set himself an important but very special task. He wants to describe differences among societies and to cast his descriptions in highly general and systematic terms. But this is still too broad. He limits himself to those terms relevant for a society's capacity to adapt to its environments (what Sahlins and Service have called a society's level of "general evolution"), and he does not treat the analysis of a society's actual adaptations (its level of "specific evolution"). He considers a society as a social system, thus paying only indirect attention to culture, collective processes for coping with novel experiences, technology, and personal involvements in change. He further confines himself to description as contrasted to explanation, and he describes evolutionary levels and not the process of evolution.

As most sociologists know, Parsons follows Weber, Durkheim, and many others in thinking about evolution from the perspective of the unique characteristics of Western societies, insisting that they were the first to attain the adaptive capacities we consider modern, and adding that all societies subsequently attaining such capacities have done so by virtue of contact with the West. From this historical perspective, and when focusing upon societies as social systems, attention centers on the capacity of societies to order their internal affairs. Purely by definition, that capacity is greater to the extent that those affairs are differentiated and/or that the apparatus for control is both differentiated and generalized. (Note that Parsons, like his predecessors, deals with capacity, not ability. The two are far from perfectly correlated.) Unlike some other analysts, Parsons places more emphasis upon the cultural standards involved than upon the organizational apparatus for "cybernetic" control, and he gives less attention to the question of how fully either one is the product of the other or is consistent with the other. He treats the cultural standards as having an existence "outside" the social system, controlling that system and providing it with one of its environments. Indeed, in that context, he says (p. 10), "We must focus on . . . the cultural system . . . in order to examine the major sources of large-scale change."

Having his framework before us, we can see that certain questions become salient: (*a*) On what systematic grounds does one identify, and place in correct hierarchical order, the several components of cybernetic control? (*b*) Must those components and their order always be the same? (*c*) How closely will trained observers agree in their judgments of a society's evolutionary level? (*d*) What may be expected to accompany or to follow the establishment of a particular variety of control? (*e*) How can we validate our judgment that certain controls enhance a society's capacity for action when we must estimate the existence of such capacity from the evidence of a society's ability to act? (*f*) What observations would have serious status as evidence for deciding on the validity of these judgments? Like his predecessors, Parsons has suggestions to offer concerning the first of these questions, his suggestions being clearer and better ordered than theirs. Like them, he offers illustrations but not evidence. Furthermore, his illustrations, like theirs, are taken from societies that best fit his approach, omitting societies that seem guided as much, if not more, by "organizational procedures" as by a powerful unifying myth, or religion, or a well-explicated view of man and history (consider in this connection many federations and confederations, among them the Nuer, the Iban, the Hottentot, and the Blackfoot), omitting from among the "most" primitive societies those that lack an intricate and well-established normative order focused definitively on kinship and religion (consider the Araucanians, the Jivaro, the Orokaiva, or the Tucuna), and so on.

It is my own judgment that Parsons, and the tradition he extends, moves in the right direction. What is achieved in this book is a more penetrating statement of the main sociological position on general evolution. That is, by any standard, an important achievement. What one misses in these pages is what Parsons

understands but does less to communicate: the living problems that make of general evolution a subject that has gripped him as it has so many of us.

GUY E. SWANSON

University of Michigan

Student Culture: Social Structure and Continuity in a Liberal Arts College. By WALTER L. WALLACE. Chicago: Aldine Publishing Co., 1966. Pp. xii+236. $7.50.

This study is an attempt to determine how values that characterize a college campus are transmitted to incoming freshmen. The research was carried out during the 1959–60 academic year at a liberal-arts college of about one thousand students in the Midwest. Data were obtained primarily from questionnaires administered to freshmen in September, to all students in November and April, and to faculty members in April Most of the book consists of intensive statistical analysis of these data.

Special attention was paid to the factors associated with changes in grades orientation and graduate-school aspirations and expectations of freshmen. It was found, among other things, that there was a decline in the value placed on grades and an increase in the value placed on going to graduate school and that both of these changes were in the direction of values held by non-freshmen. Analysis revealed that freshmen acquaintances themselves played little part in these changes; rather, the changes could most clearly be related to the influence of non-freshmen Further analysis showed that contact with Greek-letter organizations had an opposite effect upon freshmen grades orientation from contact with faculty members. Contact with the former was found to be associated with a decline in grades orientation, while contact with the latter was associated with an increase in grades orientation. Among the hypotheses developed from the analysis are these The initial effect of campus life on freshmen is a rapid adjustment to existing values, and this change slows down and differentiation enters in the second phase of adjustment; as competition among student body, faculty, and administration increases, social differentiation of the college population also increases; there is a sex status differentiation in general orientation toward the same social structure within a college, with men more strongly motivated toward academic and occupational success and women more toward marital success.

The method of study and the hypotheses generated are valuable not only for increasing understanding of how attitudes are transmitted on a college campus but also for understanding how patterns are transmitted in all groups However, there are weaknesses in the research design. One of the most serious is the lack of comparability of the measure of grades orientation in September with that in November and April. In September the freshmen were asked to rate on a three-point scale the importance of the goal of "getting the highest grades that I possibly can." In November the subjects were asked to choose between making good grades and engaging in an alternative activity. Although the author recognized that the measures were not strictly comparable, he did not hesitate to make extensive comparisons and to derive from them one of his most important conclusions, namely, the rapidity with which freshmen change in their adjustment to campus patterns In the November and April questionnaires subjects were asked to choose between alternatives "no matter how unrealistic some of the alternatives may seem to you " One cannot help wondering why students have to be asked to make "unrealistic" choices and just how meaningful such choices are once they are made.

A basic aim of the study was to find out how freshmen move toward the acquisition of prevailing campus attitudes. It would have been helpful to the reviewer if the author had stated more explicitly what these prevailing attitudes were and if they varied among sophomores, juniors, and seniors. The study might well have begun with a clear exposition of the existing patterns toward which the freshmen moved, that is, with what might be termed a "base-line" study of the campus. This might have helped the reviewer avoid the confusion he felt, for example, in interpreting Table 3 1 This table compares the percentage of freshmen giving different grades-orientation ranks in November and April with those given by non-freshmen in November. It shows, in one part, that 22 per cent of the non-freshmen ranked grades orientation first, while freshmen giving a similar ranking declined from 25 to 14 per cent. The author points out that the

direction of the change in this and other categories was toward the prevailing attitude, but he does not deal with the fact that the percentage of freshmen ranking grades orientation first was actually closer to the non-freshmen percentage in November than in April.

Another problem, by no means peculiar to this study, concerns the use of such words as "culture," "society," and "socialization" to refer to college campuses. In the strict meaning of these terms, at least as far as anthropology is concerned, students at a particular college do not have a "culture"; nor do they form a "society," and the adjustments they make to college life are not "socialization," "acculturation," and "enculturation." It would have been helpful had the author initially indicated the special way in which he was employing these terms, perhaps by putting quotation marks around them. However, in the reviewer's opinion, we need either to use such terms precisely and consistently or to redefine them altogether.

This book was not easy to read, as might be expected when one must follow the statistical analyses of 78 tables in 191 pages. Yet, it is stimulating in the questions that it raises and in the hypotheses it develops. The analyses are done with ingenuity, and the relationships of data are relentlessly pursued. The author's use of Rossi's Interpersonal Environment Technique illustrates the value and promise of this approach in ascertaining the nature of personal influence. There is merit in studying one college campus over the period of an entire academic year. Such intensive studies of particular colleges are needed for the refinement of hypotheses about the transmission of campus attitudes. The author has made an important contribution toward that end with this exploratory case study.

J. KENNETH MORAND

Chinese University of Hongkong
and
Randolph-Macon Woman's College

School Disorder, Intelligence, and Social Class. Edited by MARY ALICE WHITE and JUNE CHARRY. New York: Teachers College Press, 1966. Pp. viii+92. $2.25 (paper).

This book deals mainly with the relationships of such variables as intelligence and social class to disordered responses of pupils to school. The data were drawn from questionnaires returned by forty-six school psychologists on 2,866 pupils referred from 61 per cent of the Census tracts in Westchester County, New York. Questionnaire items covered source of referral and reason, psychodiagnostic procedures used, diagnostic impressions, action recommended, and action taken.

A tendency was observed to diagnose pupils highest in socioeconomic status as emotionally disturbed or neurologically defective. Cultural labels (such as "culturally deprived") tended to be applied to those lowest in SES. For those high in SES, mental-health services, especially private ones, tended to be recommended and provided. For those low in SES, "educational treatment" tended to be recommended and provided.

Among the theory concerns of this book are the latent and manifest functions of school psychologists and the classifying and labeling processes occurring in the schools. The editors speculate about the role of the caretaking professionals in building up the subpopulations which they undertake to treat.

While this study is severely limited by the data, it poses important questions for study about the definitions of mental-health problems of school-age versus adult populations. Sociologists and psychologists oriented toward research and theory problems in deviance and education will also find this a useful source of ideas, which, unfortunately, are rather inadequately presented and related to the work of others.

ELMER LUCHTERHAND

Brooklyn College

Catholic Action in Italy: The Sociology of a Sponsored Organization. By GIANFRANCO POGGI. Stanford, Calif.: Stanford University Press, 1967. Pp. xv+280. $8.00.

This case study addresses itself to the problems of the relations between one organization and another. Its focus of analysis is the "sponsorship relation" between the Catholic church and Catholic Action, an organization of laymen devoted to the diffusion of Christian principles in the "secular" society. The author's main thesis is that this relation, which amounts for various reasons to a strict structural and cul-

tural dependency on the church, has the effect of preventing the "sponsored" organization from fulfilling adequately the very task assigned to it, namely, to maintain or re-establish a contact between the church and the secularized modern world.

The data that were available to the researcher consisted primarily in official statements concerning the ideology, the general policy, and the structure of the organization, although they also included some significant episodes of the history of Catholic Action during the period under study (1945–58) In order to evaluate the impact of the "sponsorship relation," the author applies to his data a theoretical model of the "competent" organization, provided mainly by P. Selznick's analysis of "institutional leadership." Poggi's study is suggestive but, as he himself points out, limited and inevitably exploratory. An admitted methodological bias toward the explanatory value of the "sponsorship relation" leads him to attribute to that relation some consequences that could result from other factors, for instance, the official ideology. Unfortunately, Poggi's data did not allow him to make a clear distinction between elements that are intrinsic to any organizational relation of dependency, other elements that result from the peculiar nature of the religious task of the organization, and those elements that are related to the particular cultural environment. Further studies on a more factual and possibly comparative basis should contribute to the refinement of this analysis.

Perhaps it could be pointed out that, although the study is intended to be essentially an organizational analysis, it represents a contribution of an equal interest to the field of the sociology of religion, to the study of the relations between religion and modern society and between charismatic institutions and their environment.

Jacques Gellard

University of Chicago

Equality of Educational Opportunity. By James S. Coleman, Ernest Q. Campbell, Carol J. Hobson, James McPartland, Alexander M. Mood, Frederic D. Weinfeld, and Robert L. York. Washington, D.C.: Government Printing Office, 1966. Pp. vi + 737, $4.25 (paper); and *Supplemental Appendix to the Survey on Equality of Educational Opportunity.* By James S. Coleman *et al.* Washington, D.C.: Government Printing Office, 1966. Pp. vii + 548, $3.00 (paper).

This mammoth study of the education of American minorities is actually a compendium of eight studies. One chapter compares the characteristics of teachers in white and Negro schools, in central cities and suburbs, etc., and compares white and Negro teachers-to-be in high schools and colleges. Another chapter analyzes the quality of education in colleges attended by Negroes and whites. Another analyzes the "dropouts"—the non-enrolled persons aged five to seventeen located in a Current Population Survey. Another chapter presents eight case studies, each highlighting a different component of the process of school integration. The last chapter includes an evaluation of Project Headstart, a study of the differences in achievement between pupils who do and do not speak English at home, an evaluation of high school guidance counseling programs, and a study of the availability of vocational education to white and Negro high school students.

But these chapters have been almost eclipsed by chapter iii of the report—an analysis of the causes of academic achievement The study is based on 570,000 pupils—white, Negro, Oriental-American, Mexican-American, American Indian, and Puerto Rican—drawn from the ninth and twelfth grades of 6?9 high schools and the first, third, and sixth grades of their 2,377 elementary feeder schools in 388 metropolitan areas and counties The schools are described by data gathered from students, teachers, principals, and school superintendents; the student questionnaire measures a number of elements in the pupil's family environment, some attitudes toward education and achievement, and, of course, scholastic achievement.

One can have great fun trying to tell someone about the magnitude of the analysis. Whether one counts the number of correlation coefficients reported in the Appendix (500,000) or the number of separate regression equations which are reported (nearly 2,000?), the scope is enormous. The analysis is not only large; it is extremely ingenious. We are all

indebted to James Coleman for having the courage (and ability) to tackle this monstrosity.

Although the report states explicitly three caveats, they are so important that they should be restated here at the very outset. First, there is the "common variance" problem. The typical analysis goes something like this. Suppose the authors are interested in the effect of one measure of school quality (e.g., whether the school has a science laboratory) on achievement. The authors first carry out a multiple regression using six variables measuring the student's social background and ten other measures of school quality; they then repeat the regression, using these sixteen factors plus the laboratory variable. The increase in the total percentage of variance explained when the seventeenth variable is added is then taken as the measure of its impact. But this is an extremely conservative measure, since the effect of the independent variable may be partly or largely concealed in the regression of the other school quality measures and even in the background variables. If students from high-status families learn more *because* they go to schools that have laboratories, this is ignored. The result is that the report's conclusions are conservative and may sometimes sharply understate the size of some of the relationships. The reader must always worry about how much additional impact is concealed in the control variables.

And this brings us to the second caveat—that even experienced readers are often misled because the amount of variance explained seems so small. Thus, for example, the authors write, "School to school variations in achievement are much smaller than individual differences within the school." This is true; but this does not mean that it can be ignored or neglected. On the average, only 16 per cent of the variance in achievement lies between different high schools for each ethnic group. But this means, by my calculations, that the brightest and luckiest tenth of northern Negroes are in schools where their mean achievement is fully four grades ahead of the dullest and unluckiest tenth. Our best high schools are really junior colleges; our worst are merely junior high schools. Sixteen per cent is not so little after all.

The final caveat is that in some cases there is little variance in the independent variable. For example, the authors find little effect attributable to difference in pupil-teacher ratios; but certainly one reason for this is that there is little variation across the country in this factor.

With this much said, let me review what I think are the major findings of the report. First, the analysis seems to indicate convincingly that there is no point in continuing to think of a strict dichotomy between "ability" and achievement tests. The report shows that "ability" is as much affected by school factors as is "achievement." Second, while the student's background is important, it is only a part of the explanation of between-school differences. What seems to happen is a large "contextual effect." Students from educationally advantaged backgrounds benefit from being surrounded by other fortunate students. Negro students benefit from integration in part simply because their white classmates are good students; they also seem to benefit from integration per se, but it is hard to say how much.

Fourth, the obvious factors which the school system might try to control—the curriculum and the facilities—account for small proportions of the variance. In contrast, the quality of the teaching staff makes considerable difference, although not so much as the character of the student body.

Finally, there is an intriguing finding which complicates the analysis greatly: a powerful predictor of achievement of minority group pupils is the amount of fatalism they express on a short test which the authors call "control of environment." Apparently, minority pupils achieve in school only if they are convinced—as convinced as white pupils are—that they have a chance to control their destiny.

In conclusion, the authors summarize this chapter of the *Equality of Educational Opportunity* report by pointing out all the ways in which the initial impact of family background is reinforced, rather than tempered, by the school system. The fortunate attend schools with their own kind, with teachers who are brighter and better educated, and—although this is only frosting on the cake—with superior curriculums and equipment. Family background and ethnic origin are as good predictors of achievement at grade twelve as they are in elementary school.

social changes can be traced to the "quality of suburban life." The crucial difference between cities and suburbs, he concludes, is that they are often home for different kinds of people.

He sees no justification for the halting of suburbanization. The fear of urban sprawl is an exaggerated fear. The major disadvantage of suburbanization is the proliferation of small local governments. Gans finds parks to be of less importance as recreational areas than such things as beaches, lakes, and camping sites. "The conservationist opposition to further suburbanization," he tells us, "rests less on the need for recreational land than on a desire to reserve vacant land for future generations, and this in turn is based less on accurate prediction of actual land needs than on a value judgment that the preservation of open land is more important than the current needs of people."

He proposes a single federal income tax to counteract the decline of property tax receipts in cities. He suggests political strategies for Negro voters, and federal action to implement racial integration in the suburbs. This action, he suggests, should be accompanied by a massive housing program to enable non-white city dwellers to move to the suburbs. The most important priority for future suburban planning is the planning mix, for it ultimately determines the quality of suburban living. The population in suburbia must be broadened to make the opportunity for suburban living available to everyone who wants to come.

It is refreshing and encouraging to see a sociologist deliberately address himself to problems of design and planning as Gans does both implicitly and explicitly throughout this book. He argues for sensitivity to the values, aspirations, and attitudes of people throughout the planning process and observes that the conventional city planner, in applying his professional expertise may, in point of fact, be applying not "professional" values but the values of the upper-middle-class culture from which he comes. Unfortunately, in his efforts to debunk the physicalist bias of many city planners, Gans probably grossly underestimates the social effects of physical environments.

Perhaps the major one would wish to make of Gans's efforts arises from the very fact of his extraordinary perceptiveness and sensitivity to the values of others. These talents can [illegible] to an extreme form of cultur[al] relativism that does not inquire into th[e] sources or question the larger consequences o[f] specific forms of differentiation. This can, an[d] in the book under discussion occasionally doe[s] lead to a placidity and gentleness in the formu[-]lation of solutions to social problems that neg[-]lects to give adequate attention to some kind[s] of plans because of their possible negative re[-]ception by some segments of the population[.] On another level, however, this sensitive an[d] thoughtful book helps us to remember that, i[n] the years ahead, social life need no longer, an[d] indeed must no longer, consist of one massiv[e] zero-sum game.

ROBERT BOGUSLA[W]

Washington University (St. Louis)

La Vida: A Puerto Rican Family in the Culture of Poverty—San Juan and New York. By OSCAR LEWIS. New York: Random House, 1966. Pp. lix+669. $10.00

In *La Vida*, the biography of the Rios family is presented in *Rashamon* fashion; each person's testimony creates contrasting perspectives on the entire family. Except for a brief introduction, *La Vida* does not interpret the complex lives it reveals. Through the mundane concerns and passions of the Rios family, one becomes aware of those meanings and relationships which constitute social reality for this stratum of urban, lower-class Puerto Ricans.

La Vida reads like a novel. But this social universe lacks one of the conventional elements of fiction: a plot. In this community, social experience and action are unrelentingly episodic. Encircled by poverty and immobilized by powerlessness, life is overwhelmingly circumstantial. Commitments to others and family solidarities are always contingent and never unconditional. Moreover, the members of this community do not share sustaining images of the future. The absence of ideologies and organizations which promise to transform or transcend the present adds to the despair which often afflicts their lives.

For these slum dwellers, the compass of purposeful human activity is narrow. Emotional and physical resources are channeled into usually transient efforts to dominate relationships with significant others. In my opinion, this

theme embraces and is due to more than the conflict between the sexes inherent in Latin conceptions of manhood. Nor is this desire to organize other lives around one's own by sheer willpower or force simply pathological. While the norm is not stated explicitly, these people believe that it is legitimate to use whatever means one commands to control whomever is crucial to one's self-respect or well-being in a given situation. Yet, in spite of the acceptance of the primacy of self-interest, those who feel wronged by others are not willing to relinquish their rights to considerate treatment. Only in this normative context is it possible to understand the tenacity and fragility of family bonds; the recurrent accusations and forgiveness of personal injury; the statements that a person can trust no one; and enduring dependence upon one's parents, children, siblings, etc.

This book is so compelling and disturbing that one is forced to ask whether life is really like this for these people. The answer should be simple. How can anyone dispute such documentation? The reader is privy to the most intimate and elemental human crises and confrontations. One obvious source of "sampling bias" is Lewis' choice of this particular family to describe the dominant life-style of this population But, whatever his judgment in this respect, I suspect that a special vision of human nature and culture shaped his view of this community, that is, influenced what materials he selected to represent this way of life I am not referring to his notion of a "culture of poverty" here; that is another problem Rather, the work as a whole supports a conception of culture as an adaptive device, in this case to deprivation and exploitation As traditional modes of acting and thinking, culture stands between individuals motivated by imperious needs and social chaos Given the impulsive and conflictful character of social interaction, order emerges out of tacit but nonetheless shared understandings about the proper limits on aggrandizement among family members. In this way, culture prevents a "war of all against all."

Is there another dimension to this world? If the situations are at all comparable, Mintz's life history of a rural but proletarianized cane worker (*Worker in the Cane*) suggests that there are other models of the human career in this area. It further indicates that not all interpersonal relations have the schismogenic character of those which identify the Rios family. Although Mintz's informant was oppressed by poverty, his religious and political roles gave him a sense of personal dignity and rational control over his environment. Since his fate was linked to those who shared his hopes, his sense of personal worth was not inextricably tied to fleeting failures and successes

Among its many virtues, this book provides a strong antidote to current anthropological conceptions of culture Under the influence of Levi-Strauss and manifest in ethnoscience and similar disciplines, culture is often seen as a collective mental apparatus which enables men to order and classify the flux of events and objects supplied by society and nature *La Vida* demonstrates that culture must provide more than cognitive categories It somehow must be implicated in what goes on during the course of ordinary existence in a world which imposes material limitations on man's philosophical propensities.

GARY SCHWARTZ

Institute For Juvenile Research

The American Student's Freedom of Expression: A Research Appraisal By E. G. WILLIAMSON and JOHN L. COWAN Minneapolis: University of Minnesota Press, 1966. Pp x+193. $5.50.

This study was undertaken in 1961 by the National Association of Student Personnel Administrators (the professional organization of American college deans) According to the authors of this report, educators were becoming aware of the growth of student organizations for social action, and, in view of students' increased activity on political issues, many administrators felt a need to examine systematically such questions as "Do colleges deliberately restrain students from active participation in society's problems? If so, is this responsible? Are students' constitutional rights infringed by their colleges?" and, more generally, "What are the purposes of higher education?" Unfortunately, this volume deals only with the first of these important questions. Williamson and Cowan have written a descriptive rather than a policy-oriented report: they have explicitly chosen to present "what is" and leave discussion of "what ought to be" up to others. Very little is said about the "why" of

ment of these institutions. Gans finds that few social changes can be traced to the "quality of suburban life." The crucial difference between cities and suburbs, he concludes, is that they are often home for different kinds of people.

He sees no justification for the halting of suburbanization. The fear of urban sprawl is an exaggerated fear. The major disadvantage of suburbanization is the proliferation of small local governments. Gans finds parks to be of less importance as recreational areas than such things as beaches, lakes, and camping sites. "The conservationist opposition to further suburbanization," he tells us, "rests less on the need for recreational land than on a desire to reserve vacant land for future generations, and this in turn is based less on accurate prediction of actual land needs than on a value judgment that the preservation of open land is more important than the current needs of people."

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Perhaps the major one would wish to make of Gans's efforts arises from the very fact of his extraordinary perceptiveness and sensitivity to the values of others. These talents can readily lead to an extreme form of cultural relativism that does not inquire into the sources or question the larger consequences of specific forms of differentiation. This can, and in the book under discussion occasionally does, lead to a placidity and gentleness in the formulation of solutions to social problems that neglects to give adequate attention to some kinds of plans because of their possible negative reception by some segments of the population. On another level, however, this sensitive and thoughtful book helps us to remember that, in the years ahead, social life need no longer, and indeed must no longer, consist of one massive zero-sum game.

Robert Boguslaw

Washington University (St. Louis)

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theme embraces and is due to more than the conflict between the sexes inherent in Latin conceptions of manhood. Nor is this desire to organize other lives around one's own by sheer willpower or force simply pathological. While the norm is not stated explicitly, these people believe that it is legitimate to use whatever means one commands to control whomever is crucial to one's self-respect or well-being in a given situation. Yet, in spite of the acceptance of the primacy of self-interest, those who feel wronged by others are not willing to relinquish their rights to considerate treatment. Only in this normative context is it possible to understand the tenacity and fragility of family bonds; the recurrent accusations and forgiveness of personal injury; the statements that a person can trust no one; and enduring dependence upon one's parents, children, siblings, etc

This book is so compelling and disturbing that one is forced to ask whether life is really like this for these people The answer should be simple. How can anyone dispute such documentation? The reader is privy to the most intimate and elemental human crises and confrontations. One obvious source of "sampling bias" is Lewis' choice of this particular family to describe the dominant life-style of this population. But, whatever his judgment in this respect, I suspect that a special vision of human nature and culture shaped his view of this community, that is, influenced what materials he selected to represent this way of life I am not referring to his notion of a "culture of poverty" here; that is another problem Rather, the work as a whole supports a conception of culture as an adaptive device, in this case to deprivation and exploitation. As traditional modes of acting and thinking, culture stands between individuals motivated by imperious needs and social chaos. Given the impulsive and conflictful character of social interaction, order emerges out of tacit but nonetheless shared understandings about the proper limits on aggrandizement among family members. In this way, culture prevents a "war of all against all"

Is there another dimension to this world? If the situations are at all comparable, Mintz's life history of a rural but proletarianized cane worker (*Worker in the Cane*) suggests that there are other models of the human career in this area. It further indicates that not all interpersonal relations have the schismogenic character of those which identify the Rios family. Although Mintz's informant was oppressed by poverty, his religious and political roles gave him a sense of personal dignity and rational control over his environment. Since his fate was linked to those who shared his hopes, his sense of personal worth was not inextricably tied to fleeting failures and successes.

Among its many virtues, this book provides a strong antidote to current anthropological conceptions of culture Under the influence of Levi-Strauss and manifest in ethnoscience and similar disciplines, culture is often seen as a collective mental apparatus which enables men to order and classify the flux of events and objects supplied by society and nature *La Vida* demonstrates that culture must provide more than cognitive categories It somehow must be implicated in what goes on during the course of ordinary existence in a world which imposes material limitations on man's philosophical propensities.

GARY SCHWARTZ

Institute For Juvenile Research

The American Student's Freedom of Expression: A Research Appraisal. By E. G. WILLIAMSON and JOHN L. COWAN. Minneapolis University of Minnesota Press, 1966. Pp. x+193. $5 50.

This study was undertaken in 1961 by the National Association of Student Personnel Administrators (the professional organization of American college deans) According to the authors of this report, educators were becoming aware of the growth of student organizations for social action; and, in view of students' increased activity on political issues, many administrators felt a need to examine systematically such questions as "Do colleges deliberately restrain students from active participation in society's problems? If so, is this responsible? Are students' constitutional rights infringed by their colleges?" and, more generally, "What are the purposes of higher education?" Unfortunately, this volume deals only with the first of these important questions. Williamson and Cowan have written a descriptive rather than a policy-oriented report; they have explicitly chosen to present "what is" and leave discussion of "what ought to be" up to others. Very little is said about the "why" of

the findings, although a few speculative hypotheses are offered. (It is interesting that even this strictly factual study was delayed for over a year because many of the larger foundations were unwilling to fund such "controversial" research.)

The nature of student freedom of expression is assessed by comparing the perceptions of college presidents, deans of students, chairmen of faculty committees on student affairs, student body presidents, and student newspaper editors at more than eight hundred American colleges and universities. Data are presented by region and also in terms of ten categories of institution: large and small public universities, technical institutions, teachers' colleges, private (nonsectarian) universities and colleges, Protestant universities and colleges, and Catholic universities and colleges Each type of school was fairly accurately represented in the sample in proportion to its size in the population, but it seems reasonable to assume that the non-respondent schools in each category were among the more conservative or unconcerned on these issues, and thus the results are probably slightly biased toward "freedom." Even so, from my point of view, the picture they present is not extremely encouraging

Respondents were questioned about students' freedom to discuss controversial issues, to organize political groups, to invite off-campus speakers who might be controversial, and to engage in organized protest action on civil rights and other issues. The items on speakers and direct protest actions seem to separate most clearly those who merely preach freedom of expression from those who really practice it. While 41 per cent of the presidents of large public universities indicated that all of the potentially controversial speakers listed in the questionnaire would definitely be permitted to speak on their campuses, only 7 per cent of Protestant college presidents and none of the Catholic university presidents could do so Thus, fewer than half of even the most permissive type of institution unconditionally guarantees freedom of expression in this sense. George Lincoln Rockwell would definitely have been able to speak at only 20 per cent of all schools responding; James Hoffa at 50 per cent.

Freedom to engage in organized protest action was measured by responses to situations ranging from the student editor writing an "extreme" editorial to the picketing of a public meeting. Only one-quarter of administrators would positively refrain from interfering with students picketing a meeting or sitting in at a local lunch counter; one-third would definitely allow students to organize "a group to advocate an extreme position on a controversial issue"; two-thirds would unconditionally support the right of student government to publish a resolution speaking for the student body after holding a referendum. Again large public universities were most permissive and Catholic colleges least. Single-sex schools (especially women's) were more restrictive then coeducational institutions

Other measures include the autonomy of student editors (42 per cent of whom must submit copy for approval before it is published, with 35 per cent of these reporting that they had been censored) and student body presidents Very few of the latter have had any action taken against them, largely because most student governments' main concern is reported to be the supervision of campus social life Relatively few report the expression of student opinion or sponsorship of referenda on current issues as a major function. Given the finding that student governments rarely concern themselves in a serious way with controversial issues, and the authors' own conclusion that the typical student body president is not a crusader for freedom of expression, it is too bad that a wider range of student opinion was not polled Administration, faculty, and student officers may perceive the situation somewhat differently from students whose group has been discouraged from inviting a speaker or denied a charter by the college In view of the fact that only 10 per cent of the institutions permit student groups to exist and function without official recognition (which, the authors point out, usually entails approval of the group's purposes and appointment of a faculty advisor by the administration), one can be even more certain that this study does not give the full report on restrictions of student expression Issues which never really become issues because their proponents are not "recognized"—faculty hiring and student admissions policies, as well as other more subtle restraints which are outside the scope of this study—must also be taken into account

One of the most discouraging findings is that teachers' colleges rank near the bottom on

almost all the measures of student freedom of expression. I agree with Williamson and Cowan's assertion that it is imperative that those who supposedly prepare pupils to lead useful and fulfilling lives in our society should themselves be interested in and knowledgeable about the issues which confront us. The data suggest, unfortunately, that opportunities to develop these interests are more severely limited in teachers' colleges than in almost any other type of institution

Unfortunately, there is no systematic attempt in this report to estimate the comparative importance of type of school, size, region, curriculum specialization, or other variables in determining the amount of expressive freedom enjoyed by students on a campus (three-or-more variable tables are almost completely lacking). Nonetheless, this study provides a valuable and important description of the wide variations in the degree to which freedom of expression is guaranteed in our institutions of higher learning It is a good starting point for anyone interested in doing more detailed research in this area.

PAULA GOLDSMID

University of Chicago

Methods for Experimental Social Innovation By GEORGE W FAIRWEATHER New York John Wiley & Sons, 1967. Pp x + 250.

This book is approximately 230 pages too long The whole of the author's contribution is contained in the first twenty pages in which he presents a rather compelling argument for social experimentation as a means for finding solutions to pressing social problems. Even here, he blunts the potential impact of his message by highlighting some standard evils of contemporary academia as inhibiting the development of experimental innovation. For example, he cites the orientation for "basic" versus "applied" research, the emphasis on unidisciplinary rather than multidisciplinary training, and on the "publish or perish" phenomenon.

From page 20 on, the book degenerates rapidly It consists mainly of a cook-book description of "how-to-do-it-anyway-despite-all-the-problems." As such, it borders on the utopian. For example, the "social innovotive experimentalist" must choose a problem to study "that has a known value to a society, or he must attempt to obtain support through lucidly presenting an undefined problem to members of the social institutions affected" (p 39). This assumes, apparently, that the reseacher is willing to forego any attempt to test theoretical hypotheses (since they have no "known value" to a society) and that an articulate researcher can always generate enthusiastic support for his study Or, in a later chapter, the author displays a surprising degree of organizational naïveté in describing the ease with which a researcher can obtain commitments from administrators of organizations in which the research is to be conducted The fact that the author has been conducting research in Veterans Administration hospitals for some thirteen years has apparently not given him much perspective on other kinds of organizations Nor does it prevent him from generalizing his elementary, apolitical, institutional approach to whole communities.

When the author runs out of things to say about social experimentation, he fills in with methodological matters that more properly belong in an elementary text on statistics He presents a superficial (and highly selective) description of sampling of levels of measurement, scaling, selection of statistical tests and procedures of analysis To be sure, these matters pertain to experimental research, but they pertain also to other types of research Their brevity here markedly reduces their usefulness By the time the reader reaches the chapters on carrying out the research—collecting and analyzing the results and preparing the publications in such a way as to avoid petty arguments among the collaborators—the step-by-step description of experimental work has been reduced to a shuffle It is incredibly dull reading mostly because it is so elementary

In a final chapter, the author makes a plea for "Prospective Centers for Experiments and Training," and it is here that utopia comes to full flower This proposed center would be organizationally independent of any political ties or professional loyalties, the personnel (of which there would be sufficient numbers) would focus on problems with value to society in a true, interdisciplinary fashion; there would be adequate financial support, students would flock to this non-academic setting for experience, and society would patiently wait for the solution to pressing problems (and

some unanticipated ones) until the carefully contrived longitudinal studies were completed.

It is all too easy to be critical of this book, and, therefore, there is a very real danger that it might be dismissed altogether. That would be unfortunate because there is a message here, albeit one muted by an uncomplicated view of the real world and the inclusion of superfluous materials. The message is that social scientists have the necessary knowledge and technical skills to attack various social problems from an experimental perspective—they need only to be motivated and organized to conduct research which would be meaningful not only to society but to the social sciences themselves. It is ironic, however, that a book on innovation should contain nothing new.

RODNEY M. COE

Washington University (St. Louis)

Social Welfare Institutions: A Sociological Reader. Edited by MAYER N. ZALD. New York: John Wiley & Sons, 1965. Pp. xii+671.

The era of "the reader" has been with us for some time now; and just when many of us had begun to believe that there was little new that could be done with scissors and paste, Mayer Zald has come along with this stimulating collection. Welfare, in whatever manner one conceives it, is everywhere with us, and it is too important an aspect of our social structure to be left as the province of social workers. Indeed, if this collection has an underlying message, it is that welfare functions in society have been more fruitfully illuminated by sociologists, political scientists, and economists. The volume is also an implied invitation to these disciplines to do even more in the way of scholarship on welfare.

"Readers" generally grow out of and are intended for use in courses. Yet, it is difficult to imagine any standard course in sociology for which this volume would be used. It overlaps the areas of formal organization, work and professionalization, community political systems, and even comparative government. Many colleges locate undergraduate social work offerings in the sociology department, but the "better" departments try to avoid being so stigmatized and will thus not be readily led to this volume. That is their loss.

An author or editor is often stimulating and provocative, not only insofar as he has succeeded in his chosen task, but also in the paths he does not take and the alternatives he eschews. I was struck by just such an instance in the present collection.

The book is organized into three major sections: (1) "The Historical and Societal Context of Welfare"; (2) "Welfare Organizations in the Community"; (3) "Goals, Internal Organization and Client Relations." The aim of this organization is to "present a flow of analysis from the societal-level determinants of welfare organization and ideology to the staff-client determinants of actual services. That is, we turn from the broad social forces determining the shape and level of welfare service to the immediate environment of welfare organizations and, finally, we examine the actual interpersonal relationships between the recipients of service and welfare organizations." There is however, a curious disjunction between section 1, on the one hand, and sections 2 and 3, on the other. Section 1 contains a great many selections dealing in whole or in part with societies other than the United States, and the smallest proportion of selections overtly concerned with welfare activities The remaining two sections contain no selections whatever dealing with other societies, but many directed toward or about welfare organizations and activities in the United States. The editor has thus taken a broad comparative view in the first section, in which he attempts to demonstrate that "the institutions of social welfare exist within and are determined by the framework of a larger cultural social milieux—they are a function of the 'macrosociological' processes and structures, including the structure of the economy, the political system, and the basic value patterns of the culture " But in the final two sections, in which he deals with the fact that "the character of welfare services reflects the 'microsociological' process of role relations and of specific organizational decisions," the editor becomes disturbingly parochial in his choices. This seemingly minor aberration reflects a common failing in the conceptualization of welfare, which inhibits a meaningful sociological analysis.

Although the editor acknowledges that "social welfare institutions and programs will often cut across other institutional areas because personal and social malfunctioning may occur in disparate areas of social life," he neverthe-

less chooses to define welfare in such a way that it includes only "organizations whose primary manifest purpose is to restore and/or maintain members of the society at a minimum level of personal and social functioning." Thus, he chooses to "exclude medical institutions whose primary manifest function involves the maintenance of *physical* functioning." The injustice this does to the role of medical institutions in American welfare is serious enough, but its implications for a meaningful analysis of welfare in a full-blown welfare state are disastrous. What Zald has done is to acknowledge that the "larger cultural social milieux" determine the nature of welfare, but then to ignore the diverse solutions to welfare needs which this has produced, thus restricting his choice of selections in the final two sections to the American solution. This approach has at least two unfortunate consequences First, it conceals uniformities which arise in different systems and which would otherwise attract the sociologist Thus, exclusion of the medical system from the purview of welfare makes impossible the inclusion in the section on client relations of comparative materials, such as Mark Field's "Structured Strain in the Role of the Soviet Physician," which otherwise would merit a place in this collection Second, such a parochial approach tends to perpetuate, albeit unintentionally in this case, the notion that welfare *institutions* are equivalent to welfare *organizations*. Once again, this serves to obscure those solutions to welfare problems which do not involve the segregation of welfare activities in separate organizational structures.

Any attempt to give such a collection a truly comparative perspective would, however, require an approach which sought to identify *welfare functions*, irrespective of the organizational context in which they appeared—be it the Japanese factory, the Soviet school, or the American hospital—and would certainly take one far afield of social welfare as it is usually understood in the United States. The outcome might, however, be a more illuminating picture of the antecedents and consequences of locating welfare functions in different institutional contexts—that is, a richer *sociological* understanding of social welfare.

JOSEPH ZELAN

University of California, Davis

Industry and Labor in the U.S.S.R. Edited by G. V. OSIPOV. New York: Barnes & Noble, 1966 Pp. x+297. $8.00.

Soviet Sociology: Historical Antecedents and Current Appraisals. Edited by ALEX SIMIRENKO. Chicago: Quadrangle Books, 1966 Pp. 384. $7.95.

Social Sciences in the U.S.S.R. By the U.S.S.R. ACADEMY OF SCIENCES New York. Basic Books, Inc., under auspices of International Social Science Council. 1965 Pp. xiv+297. $7.50.

In 1965 there appeared in the Soviet Union a two-volume collection entitled *Sociology in the U.S.S.R.*, edited by G. V Osipov, which contained, among other things, reports of a number of empirical studies (or "concrete sociological investigations," as the Soviets prefer to call them) in the areas of industrial sociology and sociology of occupations Although the Western reader unversed in the history of Soviet social science would have found these of a rather mundane and crass empirical empirical character, it was precisely this which constituted the striking feature of the collection Although the articles contained a fair number of genuflections in the direction of the Soviet hagiology, they represented an epoch-making departure from the strident and tedious ideological harangues which had heretofore characterized Soviet sociology Here, at last, was evidence of serious empirical inquiry into selected aspects of contemporary Soviet society Eleven articles from this earlier collection now appear in English in the Osipov volume together with seven other papers in the areas of industrial and occupational sociology

The reader who has become accustomed to the earlier ideological tirades of Soviet scholars is bound to be gratified by this encounter with a format which is more readily identifiable as sociology. Thus, in an article entitled "Social Mobility and Choice of Occupation," there are tables with the following captions. "Occupations of the Fathers and Inclinations of the Children"; "Fathers' Social Status and Children's Inclinations"; "Fathers' Occupations and [Children's Actual] Choice of Employment." To be sure, occupations are not arrayed according to the familiar American dimensions of status (income, prestige, etc) but, rather, by "opportunities provided for creative work" and others which, however, are easily trans-

lated into more familiar dimensions. What is new here is not the finding that there is occupational inheritance in the Soviet Union or that there are striking disparities between the opportunities for social mobility afforded urban and rural youth but the fact that Soviet scholars have undertaken objective investigations of such matters and published the results.

Other articles deal with changes in the dis-distribution of the labor force, documentation of changes in living standards through detailed study of family budgets, work satisfaction, and vocational education in industry. References to related Western work in these areas are sparse but not totally absent. The collection leaves this reviewer feeling optimistic about the future of sociology in the Soviet Union.

The reader who wishes to fill in his background on the history of Russian and Soviet sociology will find the Simirenko volume useful. It is a collection of works, most of which have been previously available in English, covering Russian and Soviet contributions to social thought and social theory, reflections on the decline of sociology under the Soviet regime, and the rebirth of sociology in the post-Stalin era. It includes two research reports from the most recent phase of Soviet empirical social research. One, on attitudes toward work, is essentially identical to an article in the Osipov volume. The other presents the results of a survey on the correlates of having children baptized, apparently a not uncommon phenomenon in Soviet Russia.

Social Sciences in the U.S.S.R. purports to be a bibliographic account intended to "familiarize wide circles of scientists in foreign countries with the status of the work done in the social sciences in the USSR since the Second World War." It includes among the social sciences not only various branches of economics, political science, psychology, sociology, and history but also law, philosophy of science, logic, aesthetics, and others. This reviewer is not competent to judge the usefulness of the chapters in most of these areas. For sociology, the volume is of little worth. It reflects an earlier phase, and the empirical work of Soviet sociologists is covered in two short paragraphs of a seven-page chapter entitled, "Problems of Historical Materialism and Concrete Sociological Research." It might perhaps be of interest as an example of the pitfalls of the earlier Soviet approach to sociology. Thus, the final sentence of the chapter reads, "Soviet philosophers regard Krushchev's books and pamphlets . . . as a shining example of the creative development of social science in the complex circumstances of contemporary life." *Sic transit gloria.*

Joseph Zelan

University of California, Davis

Engineers: The Anatomy of a Profession: A Study of Mechanical Engineers in Britain. By J. E. Gerstl and S. F. Hutton. New York: Tavistock Publications, 1967. Pp 229. $8.75.

Engineering is the world's largest occupation if you do not count rice farmers or trollops, and it is to be considered a good thing when social scientists query and document the behavior and conditions of this to-date highly unattended profession—even on such a limited scale as the mechanical engineers of insular Great Britain.

I must confess it is no great surprise to me that the mammoth among the salaried professions (counting all the engineers) is the understudied entity that it is. Engineers are usually to be found high on the right shoulder of the normal curve: above-average earnings among professional and technical workers, above-average talent among all workers, slightly older than their professional and technical counterparts, moderate in their political views, administratively rather than scientifically oriented, and perhaps a bit authoritarian.

There has always been a certain penchant for the pathological among the sociologists—maybe the better to understand the normal, maybe because it is more fun—and the engineers are the great normal route by most any distribution.

Anatomy, then, is a carefully documented, carefully written, report-style monograph on some otherwise rather ordinary men, mechanical engineers who were members of the Institution of Mechanical Engineers and were working in Britain in 1962.

The authors seem to have two general purposes in mind with their study. First, the anatomy part, to describe in detail the social origins, earnings, educational attainment, career lines, aspirations, and personal habits of British mechanical engineers, with some limited estimates on the bases of age differences, education, social origin, and work-context

trends in the occupation over time. The second purpose is to bring this culled information to bear on some of the problems facing the engineering profession at present in Great Britain (many of them similar to those facing American engineers), and make public policy recommendations and suggestions for the benefit of engineering professional societies.

In addition to the trend inferences on the basis of age distributions, the authors develop an internal measure of "success"—one's current earnings relative to the other sampled mechanical engineers—and use it as a dependent variable to estimate the effects of age, education, type of work, corporate membership in the professional society, and other such career-line factors.

The results of these estimates are for the most part not too surprising The relatively high earnings are enjoyed by those engineers who completed their formal training and education and graduated with a degree, especially if it was a university degree as against one of the engineering technical training schools. Having attended one of the "better" schools at the university produces a favorable earning position, and graduation with honors is still better A fair-predictor-of-school quality is social origin, although the authors note that even in Great Britain a talented man from humble origins can make it to the top Graduation, of any sort, seems to be the singly most important estimator of relatively high earnings, although the prestige and quality of one's diploma run at least a close second

A seeming occupational hazard with a report-style nose-count monograph is that it rarely comes up with anything beyond the expected—not that it should necessarily—but research surprises are always interesting and are part of the stuff of gratification in the trade. *Anatomy*, however, is partially excepted from this, particularly by comparison with findings on the American scene.

Of particular note is the study's findings that there is no over-time (by age differences) trend in the attainment of advanced educational degrees; that indeed the proportion of non-graduates among the ranks of British mechanical engineers appears to be increasing; and, finally, that the proportion of mechanical engineers engaged in research and R & D has diminished in recent years.

These findings defy any observable trends on the American front, where both cross-sectional age-distribution differences and time-series data for all engineers as well as mechanicals point to increases in proportions attaining advanced degrees, a decline in the ever large less-than-Bachelor-degree class, and some movement toward the research and R & D sectors. Admittedly, the mechanical engineers of Great Britain may be atypical, but the contrast is nonetheless interesting.

The authors' policy recommendations are among other things that a National Review Board be established (a seeming favorite British pastime) to research the future needs for and uses of the engineers' services, that the engineering societies be centralized and unified into one body, and, also by way of protective devices, that formal requirements for practice be made more explicit and more effective. There is the suggestion, too, that the engineering societies initiate a public relations campaign to improve the image of the engineers

A perennial ill afflicting strictly cross-sectional data where it comes to over-time trend inferences from age differences is that it is often unclear whether the "trend" is merely a career-line generational phenomenon or truly an over-time secular change in the circumstances surrounding the observed respondents. The use of correlation statistics is sometimes an appropriate device for differentiating the career-line changes from any secular trends, but in the present work the authors chose not to employ this technique.

Another and more strongly felt criticism is that, since the authors were purportedly interested in the relative earnings and educational position of the British mechanical engineers for the purpose of policy recommendations, they should have carried out some comparative analysis along these lines with other British occupations. Perhaps the British Census does not give income and educational distributions broken down by occupation, but from this work at least we do not know but what the mechanical engineers are in a highly relatively advantaged position. Perhaps in comparison to other British engineering and scientific occupations the problem of entry restriction, for example, is a minor one for the mechanicals. The authors seem to know about these things; I am not sure their American readers should be expected to.

JOHN MARSH

University of California, Riverside

Liquor License: An Ethnography of Bar Behavior. By Sherri Cavan. Chicago: Aldine Publishing Co., 1966. Pp. ix+246. $6.75.

One has wondered for some time what might follow in a direct way from the frequently impressive, often dazzling, work of Erving Goffman. The question has really been how much of the orientation he has developed would remain part of his unique gift, his particular sensibility, and how much would lend itself to what Burke has termed "the bureaucratization of the imagination," without which there is wisdom but not knowledge, art but not science. The present work, by a student of Goffman, suggests a discouraging prognosis.

Much of Goffman's success depends upon a virtuosity of observation, an ability to imaginatively explore essentially trivial behavior and find, contained in that trivial behavior, elements of the dramatic, the complex, and the problematic. This is something that even Goffman has difficulty sustaining. Lacking this ability, the analysis becomes pretentious, ponderous, and trivial. The last sentence describes Sherri Cavan's book.

Professor Cavan's flawed sensibility is manifested early in the work. In an opening statement on the use of given "behavior settings" for "activities that are inappropriate," she observes: "Stenographic pools that provide young women with a setting for earning a living may also provide lesbians with an opportunity to enjoy surreptitiously the presence of a bevy of female coworkers as well" (p. 6). The very coarseness of this stereotypical thinking—grossly inaccurate as well—would make me reluctant to trust it to a study of dirty politics among nursery school children, let alone bar-room behavior.

There is a brief methodological note which informs the reader how observations were made. What the reader is not told is what observations were used in the writing of the book; I avoid the term "analysis" because observations are invariably used illustratively, never analytically. Obviously, bar-room behavior holds few mysteries for Cavan's well-organized vision. There is also a historical chapter on public drinking places which the reader, following Cavan's own example, might well pass over and forget.

The bulk of the book deals with patterns, processes, and rituals of behavior "observed" in this special setting. For readers unacquainted with such institutions, there is perhaps something to be learned. But they should also be told that social life in a bar (in many cases being as close to the living room or bedroom as all but the most exceptional observers may get) is often far more problematic, far more revealing.

Largely because her role is seen as law giver (a grotesque caricature of the later Goffman) rather than analyst, there is a crucial failure of differentiation. The insight that persons who are good friends are more likely to acknowledge one another in a tavern than persons who are not is presented as a crucial finding and in much the same manner as she discusses the much more important question of presentation and management of identity. Most important, what is lacking is a sense of the variety of adaptations possible.

The book concludes with a typology of bars—the convenience bar, the nightspot, the marketplace bar, and the home territory bar. Beyond a needlessly pedestrian description (which may be of some value to isolated readers in underdeveloped societies), her discussion provides an important beginning for an ethnography of bar behavior; unfortunately, it is Cavan's conclusion.

Both Goffman and bars deserve a better test. Ultimately, the best one can do is hope that Cavan, at least, enjoyed the research.

William Simon

Indiana University

Being Mentally Ill: A Sociological Theory. By Thomas J. Scheff. Chicago: Aldine Publishing Co., 1966. Pp. viii+210. $5.75.

In this slight book, Scheff outlines an approach to the study of mental illness that takes its "symptoms" as violations of residual social norms and views the career of the chronic mental patient as largely a function of the societal reaction to the deviant behavior and the consequent stabilizing effect of playing a stereotyped social role. Residual rules are those pervasive, taken-for-granted but unnamed norms whose violation is considered unthinkable. These statements are neither self-evident nor trivial. They reflect the "new look" in the sociological analysis of deviance and social control that has gained strength over the past

decade and has given us works of insight, power, and sophistication by, among others, Becker, Garfinkel, Goffman, and Sudnow. Unfortunately, Scheff's monograph is not in their class. The development of the basic position—despite the use of a flow-chart diagram to summarize major classes of variables and their connections and the explicit statement of a series of nine propositions—is naive and programatic. When applied to the problem of mental illness and psychiatric practice, the model does not clarify the process by exposing its basic structure, but bits and pieces of observations and data are used in an *ad hoc* way to illustrate the model. Much of the book consists of revisions of already-published material, including the author's interesting studies of decision rules in psychiatric diagnosis; a good part of the remainder is like a research grant proposal with outlines of possible studies.

One problem in evaluating the book is that it is apparently not aimed at an audience of professional sociologists; for example, despite its pretensions to present a "sociological theory" of mental illness, there is an introductory note to the reader pointing out where he can find definitions of such terms as "norm," "role," and "status." The book might serve as an introduction to the general "labeling" perspective regarding deviance, particularly for psychiatric residents and non-sociology majors in undergraduate social problems courses. Even here, however, while it is likely to provoke discussion, its primary value will be as a bridge to other more systematic examples of this point of view.

ELLIOT G. MISHLER

Massachusetts Mental Health Center
and
Harvard Medical School

The Walking Patient: A Study in Outpatient Care. By MARVIN B. SUSSMAN, ELEANOR K. CAPLAN, MARIE R. HAUG, and MARJORIE R. STERN. Cleveland: The Press of Western Reserve University, 1967. Pp. xiii + 260. $7.50.

The authors of *The Walking Patient* have analyzed the outpatient department of Cleveland's University Hospitals as a social system, with particular reference to differential reactions of patients and staff to changes brought about by the decision of the medical center to modify certain aspects of the handling of clinic patients. Marvin B. Sussman, the principal investigator, is professor and chairman of the Department of Sociology and Anthropology, Western Reserve University. Eleanor K. Caplan is assistant professor of sociology at Western Reserve.

Patients were dichotomized in terms of chronicity or acuteness of presenting complaint. While all patients were fairly well satisfied with the clinics, the chronically ill showed higher satisfaction levels than did the acutely ill. It is suggested that the acutely ill person may regard his connection with the clinics primarily as an economic transaction. The authors conclude that, if the hospital solved procedural problems in the outpatient clinics, patients might come to judge the clinics chiefly in terms of the medical care available.

The clinic staff was found, in general, to be less well satisfied with the clinics than were the patients. Profession-oriented physicians were dissatisfied with the clinic's performance in teaching and research, while feeling that patient care was the most adequately performed function of the outpatient department. The more patient-oriented non-medical personnel, while expressing dissatisfaction with patient care in the clinics, considered the teaching and research functions to be well carried out.

Staff members tended to misinterpret certain of the patients' attitudes. Thus, while the staff somewhat overestimated the importance to chronically ill patients of continuity in the doctor-patient relationship and of reduction in waiting time, it seriously underestimated the desire on the part of all patients for greater knowledge of their own conditions. Further, there was some evidence of a tendency on the part of doctors to stereotype clinic patients. Such findings as these point to a need for better communication between doctors and patients in the clinic setting.

The book's title is not completely accurate. What the authors have presented is not a study in outpatient care but a case study of attitudes and beliefs of patients and staff concerning logistics of the delivery of outpatient care, which is quite another matter.

Although the research suffers from the inescapable limitations common to case studies

of ongoing organizations, the study is remarkably well integrated, considering the nature of the sample and data. The statistical analysis relies primarily upon the x^2 test and rank-order correlation. While no one study can cover everything, it is unfortunate that the investigators failed to explore the association between organizational status of medical staff members and their perceptions and attitudes. It could be hypothesized that structural considerations may affect not only a doctor's attitudes toward clinic patients but also his definition of clinic objectives.

The Walking Patient is a well-organized work presented in a lucid, relaxed style. Materials presented in the appendixes might well stimulate further research.

JEAN CARROLL

University of Chicago

The Duality of Human Existence: An Essay on Psychology and Religion. By DAVID BAKAN. Chicago: Rand McNally & Co., 1966. Pp. ix + 242. $6.50.

Like David Bakan's previous book (*Freud and the Jewish Mystical Tradition*) this essay interrelates psychoanalytic with mythological and theological ideas. It represents an attempt toward integration of thought so necessary in a period of overspecialization.

The book centers around a basic dualism: "I have adopted the terms 'agency' and 'communion' to characterize two fundamental modalities in the existence of living forms, agency, for the existence of an organism as an individual, and communion for the participation of the individual in some larger organism of which the individual is a part" (pp. 14–15). "Agency" implies self-protection, self-assertion, self-expansion, separation, isolation, alienation, aloneness, repression of thought, of feeling, and of impulse. "Communion" implies participation, being at one with another organism, lack of separation, contact, openness, unity, noncontractual co-operation, lack of repression.

The philosophical scheme underlying this distinction assumes a dualistic structure of human nature which has emerged from a previous unity or fusion. Mental health requires a state in which "there is a coalescence between charity and self-interest, between communion and agency" (p. 235). This is the leitmotif of this book.

Dr. Bakan finds this antinomy on various levels: the socio-historical level in chapter ii (on "Protestantism, Science and Agency"); the psychological level in chapters iv and v ("Agency and Communion in Human Sexuality" and "Unmitigated Agency and Freud's Death Instinct"); and the theological, religious, and mythological level in chapters iii and vi ("The Projection of Agency and the Figure of Satan" and "Towards a Psycho-theological View"). There is no clear-cut separation of these various levels.

Nevertheless, the chapter headings indicate the main ideas. Max Weber's Protestant Ethic and Spirit of Capitalism is identified with agency. Satanism and the agentic are identified. The dichotomy: male-female is identified with agency and communion, respectively; the Freudian death drive is interpreted as a manifestation of the agentic; and finally, Judaism and Christianity are distinguished as patro- and filio-centric religions, reflecting the ambivalence of the human father toward his sons and relating this ambivalence to the antinomy of agency-communion.

The most important question this book raises for the social scientist is the relation between the social and historical elements in agency (and communion), on the one hand, and their bio-psychological and theological roots, on the other hand. In chapter ii Bakan gives to "agency" a socio-historical content by identifying it with the Protestant-Puritan-capitalist orientation as described by Max Weber. This reduces the meaning of "agency" from a bio-psychological and spiritual tendency (as defined in chap. i) to a historically defined value-attitude system.

In chapter iii, concerned with Satan, Bakan shifts from the historical and socio-historical to the theological dimension. Satan for him is "a projection in which the agentic in the human psyche is personified" (p. 39).

On the psychological level, Bakan identifies agency with the masculine, and communion with the feminine. The question is whether such distinctions are biological, psychological, or social; probably they are a mixture of all three.

This book is deeply concerned with death, which it relates to the agentic. In chapter v Freud's "death instinct" is identified with

unmitigated agency. Agentic drives may be contributing factors in the causation of cancer.

In the last chapter, "Towards a Psychotheological View," the preceding analysis is used for an interpretation of Judaism and Christianity. Bakan believes that Freud in his writings on religion "tended to focus on the filiocentric rather than on the patrocentric character of religion" (p. 199). In Christianity the hidden, agentic infanticidal drives, of which there are many traces in the Old Testament, were finally gratified; and in the belief that Christ died for and took upon himself the sins of all mankind, the harmony and balance between the agentic infanticidal drives and the communal love for all mankind were restored and established In this way, Christianity came to terms with death, one of the main tasks of every religion

Although somewhat naively identifying Christian love with American foreign aid (p 235), the book ends on this harmonious note. "What then is a 'proper' way to die . There is a proper model in that daily suspension of the agentic we engage in which we call sleep and rest. The proper way of dying is from fatigue after a life of trying to mitigate agency with communion" (p 236). This, after all, is a modern translation of the wisdom of ages into a somewhat esoteric bio-psychological language.

This book has much in common with some recent literature condemning technology, expedient utilitarian rationalism, and the acquisitive attitude (Erich Fromm, Herbert Marcuse, Norman Brown, Jacques Ellul, J. K. Galbraith, Kenneth Kenniston, A H. Maslow). Without using the term "agentic," these authors recognize the destructive tendencies in modern Western society And all of them more or less agree that these have to be mitigated by solidarity, love, altruism, and primary human relations Bakan has made an important and original contribution to this tradition.

WALTER A WEISSKOPF

Roosevelt University

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The Convergence of Military and Civilian Occupational Structures Evidence from Studies of Military Retired Employment[1]

Albert D. Biderman and Laure M. Sharp

ABSTRACT

The military personnel structure depends upon the majority of its members being forced to leave the service not later than at ages ordinarily considered as the middle of working life. Economic and psychological factors require most military retirees to seek a "second career." The assumptions on which military retirement policies are based—the ready transfer of military skills and credentials to the civilian environment—have operated satisfactorily in most cases. We suspect that this has been possible only because of changes in both the military and the civilian occupational structures which make them now resemble each other more closely than was the case in the past. The growing salience of the problem of satisfactory "second-career" transition for military personnel may accentuate "civilianizing" trends in the military. Some implications of "civilianization" of the military are discussed along with qualms that have been voiced regarding the "militarization" of civilian institutions.

INTRODUCTION

The military personnel structure, ideally conceived, is a pyramid.[2] It can maintain this pyramidal form (particularly in these times of increasing longevity) in only two ways: (1) by continual expansion and (2) by moving members out of the system.

The need to keep open the opportunity structure of an institution that is fairly stable in numbers is primarily responsible for the early retirement pattern characteristic of the military. The largest proportion of its career members retire after having spent twenty years in active service, or shortly thereafter.[3] Lasswell and various contributors to Janowitz' volume on *The New Military* have suggested hypotheses regarding convergences of the military and civilian occupational structures and the significance these changes hold for the future of both sectors of the society.[4] Our goal here is to explore some of these hypotheses.

[1] Revised version of a paper read at the Sixtieth Annual Meeting of the American Sociological Association, Chicago, 1965. The present paper draws on studies performed by the Bureau of Social Science Research under Contract Nos 81-08026 and MDTA 16-63 with the Office of Manpower, Automation and Training of the U.S. Department of Labor (since renamed Office of Manpower Policy, Evaluation and Research). These studies were carried out with continuing assistance from the Department of Defense.

[2] We will not pay great attention here to its actual deviations in the direction of a diamond or flask shape, which have been pointed out by Janowitz and others (Morris Janowitz *The Professional Soldier: A Social and Political Portrait* [New York: Free Press, 1960]). The following comment should be made, however. The pattern at the lower parts of the structure is determined by the varying flow of highly temporary members of the system. In the main the "proletariat" of the contemporary military system are young, short-term participants—the draftee and some other uncommitted types. Only those who serve a "second enlistment" or its equivalent need be considered for our present purposes, and most of those who serve this long tend to stay for a "full career." Among careerists, the pyramidal form is maintained.

[3] See Albert D. Biderman, "The Prospective Impact of Large Scale Military Retirement," *Social Problems*, VII, No. 1 (Summer, 1959), 84-90.

[4] Harold D. Lasswell, "The Garrison-State Hypothesis Today," in Samuel P. Huntington (ed.) *Changing Patterns of Military Politics* (New York: Free Press, 1962), pp. 51-70; Morris Janowitz, *The New Military* (New York: Russell Sage Foundation, 1964).

Most of the data to be adduced are from studies we have recently completed on the "second-career" problems of retired military men.[5]

PARALLELS BETWEEN MILITARY AND CIVILIAN INSTITUTIONS

The occupational orders of military systems, of course, have always reflected and been integrated with those of the civilian economy. As the society changes, its military institutions will reflect these changes. Furthermore, its military institutions may be a major agent of change in other institutions. The truly problematic issues involve such questions as: How rapid and thorough is the convergence? In what respects do changes in the military organization precede or follow those in the civilian world? Which elements respond to influence and which remain distinctive? From various possible functional standpoints, what continued elements of divergence are desirable and undesirable? Which mechanisms transmit influences between civilian and military institutions and which insulate against these influences?

It is a tenable proposition that military organizations—by virtue of characteristics that tend to separate them from the remainder of the society and thereby to insulate them from the dominant processes of change—have a tendency to reflect archaic elements of the social order and to evolve forms deviant from those predominant in other institutions. Many of the views prevalent in contemporary American writings on the U.S. military derive from the experiences of the temporary, wartime soldiers who found the military strange and archaic. But the resistance of military institutions to change is also documented by more systematic evidence. Janowitz, for example, shows that the U.S. military establishment for a long time tended to reflect the archaic, agrarian order.[6]

The emphases in writings about more recent developments have been in another direction—upon how remarkably like civilian institutions the military is becoming and upon the degree of influence of military-originated forms and ways upon the conduct of civilian enterprises. Lang, for example, writes:

> First, in terms of enlisted men's occupational distribution, the military establishment stands out as one of the more technologically advanced sectors of American society. The military employs higher proportions of technical and scientific, administrative-clerical personnel, mechanics and repairmen, and service workers than are found in the male labor force. Likewise it employs significantly lower proportions of men in the categories "craftsmen" and "operatives and laborers." To these statistics, covering only enlisted personnel, must be added the scientific, technical, and administrative skills which are found in even greater concentration among officers . . .
>
> . . . the civilian occupational structure reveals a decline in the number of self-employed managers and officials and of gainfully employed persons in the agricultural sector, . . . the decline of occupations with no civilian-military counterparts both in the armed forces and in the labor force suggests increasing overlap between skills required in the two sectors. As a result, experience acquired during military service has increasing transfer value in a civilian career.[7]

The phenomenon of "retirement," in the new sense of a mid-career change in occupational role, institution, or both, is not peculiar to the military. Some civilian occupations are also moving in this direction. Skill obsolescence and shrinking work-force requirements in certain employing institutions are currently the most visible evidences of this pattern in the civilian world. Increasing expectations of mobility with seniority also make early retirements neces-

[5] Laure M. Sharp and Albert D. Biderman, "The Employment of Retired Military Personnel" (Washington, D.C.: Bureau of Social Science Research, [illegible]

[6] Janowitz, *The Professional Soldier*.

[7] Kurt Lang, "The Effects of Succession: A Comparative Study of Military and Business Organization," in Morris Janowitz (ed.), *The New Military*, pp. 45, 47.

sary in stabilized civilian institutions. (Academicians are certainly familiar with the "up-or-out" system.) There is a steady movement toward setting earlier retirement ages in pension systems.[8] Legislation establishing retirement rights after thirty years of federal civil service, regardless of age, has recently been enacted. Early retirement itself can be considered a type of convergence of military and civilian structures.[9]

MEANINGS AND EVIDENCES OF CONVERGENCES

The development of early retirement patterns, per se, illustrates one type of evidence of convergence that we will discuss, namely, *structural similarities*—similarities in the way in which occupations are organized with respect to such matters as patterns of recruitment, authority, succession, career progression, and task organization.

A second type of evidence of convergence may be called *dynamic similarities:* that is, evidence of the military and civilian structures being subject to the operation of similar forces and manifesting similar principles of change.

The third type of evidence is in some ways the most indirect, but in others the most compelling. This is evidence regarding the *interpenetrability* of the structures —specifically, the ease of movement of persons from a role in one of these structures to a role in another with equilibration of the status values of these successively occupied roles.[10]

[8] U.S. Senate, Committee on Armed Forces, *A Study of the Military Retired Pay System and Certain Related Subjects* (prepared by the Study Committee of the University of Michigan, July 6, 1961).

[9] Albert D. Biderman and Laure M. Sharp, "Changing Concepts of Career and Working Life" (unpublished paper; abstract in *Public Opinion Quarterly*, XXIX, No. 3 [Fall, 1965], 470).

[10] While we will be examining evidence relating to only one direction of movement, i.e., from the military to the civilian, the other is manifest by such developments as the 1965 plan to hire 60,000 civilians to replace soldiers.

Because of the prominence of discussions of *attitudinal and ideological similarities* (and dissimilarities) of military men and civilians, we will also present some conjectures regarding this fourth aspect of convergence.

PREVIOUS STUDIES OF MILITARY RETIREMENT

Of the types of convergence, interpenetrability is that most immediately relevant to our recent studies. In earlier papers on the problems inherent in sustained, large-scale retirements of military personnel at the middle of working life, Biderman pointed to the rather remarkable assumption on which the system rested, namely, that each year many thousands of individuals, more or less middle-aged, whose training and experience in work were largely or exclusively gained in the military, would be able to find civilian jobs of at least roughly comparable economic and status value to those they had achieved in the military.[11]

Until now, large-scale military retirement was too recent and insufficiently studied to test the realism of this assumption. But non-disability retirements after about twenty years of service now comprise the lion's share of the total. In 1964, the number of retirements annually reached the plateau of about 60,000, at which level they are expected to remain for some time to come.

The first large-scale study of second-career employment was undertaken at the University of Michigan in 1960–61 for the Senate Committee on the Armed Services, which was then reviewing the retirement policies and the retirement pay structure of the Department of Defense.[12] As part of its study, the Michigan Study group con-

[11] Biderman, *op. cit.*; see also Biderman, "Sequels to a Military Career: The Retired Military Professional," in Morris Janowitz (ed.), *The New Military*, p. 318.

[12] U.S. Senate, Committee on Armed Forces, *op. cit.*; hereafter this is referred to as the "Michigan Study."

ducted a mail survey of all officers then on the retired lists. It found that an easy transition to civilian employment had been made by slightly over half of the officers on the retired list at that time, while about a third had had at least some difficulty. The actual incidence of involuntary unemployment, financial hardship, and status loss among the group was not clearly established by the study, although the data permit inferences that severe problems affected some 10 or 15 per cent. The study concluded: "There can be no doubt, however, that at the present time most officers and enlisted personnel must have retired pay in order to maintain the economic position which they have attained and for which they have made sacrifices."[13]

Several small-scale studies by various active-duty and recently retired officers in connection with graduate theses yielded findings that were sometimes ambiguous, but all indicated substantial problems of military-to-civilian transition for at least a minority of retirees.

Various findings indicated that it was *not necessarily* the retiree whose background was "more military," rather than "more civilianized," who had the greatest problems of transition. Among the relevant indicators are reserve (versus regular) status, length of service, and military specialty. The Michigan Study found that reservists, rather than regulars, had greater difficulties. Collings found those with longer service found better jobs than those who retired at twenty years.[14] The Michigan Study Committee summarized the military-to-civilian transfer problem as "not so much an absence of marketable skills but rather the difficulty of translating individual skills and experience gained in a military setting into civilian terms so that they can be 'matched up' with employer needs."[15] For the former problem—the lack of transferable skill—it felt that programs of retraining would be needed. For the latter—that of translating skills—it recommended, among other measures, extensive preretirement vocational counseling and placement programs.

The U.S. Department of Labor, through the veterans' employment services of the states, is now engaged in an extensive program of early counseling for armed forces personnel along the lines of these recommendations.

RECENT STUDIES

The rationale of the more recent studies, however, is broader than consideration of the second-career problem for former military men. The interest of the principal sponsor of these studies—the Office of Manpower, Automation and Training of the U.S. Department of Labor—derives from the growing significance of the second-career problem among other segments of the labor force.

There were two data sources for the studies reported here:

1. A three-phase panel survey of the cohort of officers and enlisted men who retired in May, 1964, after twenty or more years of service. Women, those men retired for disability, and those over fifty-two years of age at retirement were excluded. Approximately 3,200 eligible respondents were contacted one month before retirement and asked to complete a preretirement questionnaire. They were recontacted six months after retirement had become effective and were sent a postretirement questionnaire. A total of 2,185 men (571 officers and 1,614 enlisted men) supplied usable answers to both mailings. In addition, 500 preretirement questionnaire respondents, who said they were going to be active job seekers and who indicated willingness to co-operate, were selected for the intensive, employment follow-through part of the survey. This phase lasted for sixteen weeks. The respondents were asked to send in weekly and monthly report forms along

[13] *Ibid.*, p. 43.

[14] Kent J. Collings, "Employment of Retired Military Officers in the West Coast Area: A Pilot Study" (unpublished Master's thesis, University of Washington, 1963), pp. 57-59, 76.

[15] Michigan Study, p 51.

with special forms every time they had a job counseling or employment interview or a job offer. Where possible, we also attempted to collect information by mail from job counselors and employers with whom the job seekers had been in contact. (We will refer to this work as the BSSR Study.)

2. This analysis was supplemented by data from a Department of Defense Survey of Retired Military Personnel ("DOD Survey") conducted in September, 1963, using a sample of 19,000 drawn from lists of all currently retired uniformed personnel. This survey was primarily concerned with matters other than postretirement employment (its focus was on medical care for retired personnel and their families), but it included several items—dealing with personal and employment characteristics—pertinent to our interests. These items were originally incorporated in the DOD questionnaire at our request. From this survey, we obtained some trend indicators as well as a check on the generalizability of our findings beyond the particular cohort (May, 1964) on which our intensive study was based. Our most comprehensive analysis of these DOD data is limited to a group comparable to those covered by the BSSR Study—recent retirees (from 1960 to mid-1963) not retired for disability, with twenty or more years of active service and fifty-two years of age or under at retirement. A total of 3,098 cases (937 officers and 2,161 enlisted men) were available for this comprehensive analysis.

EASE OF TRANSITION

Our findings suggest that the assumptions on which military retirement policies are based—the ready transfer of military skills and credentials to the civilian environment—have operated satisfactorily in most cases. There were noteworthy exceptions, however, which will also be examined here.

The men themselves had few doubts about the relative ease with which they could transfer from one system into the other. Immediately prior to retirement, they did not perceive the civilian occupational world as an alien one in which they would have great difficulty making their way. An overwhelming majority of the retirees—83 per cent—planned to enter the labor market immediately upon retirement; another 13 per cent planned to join the job hunt after a period of relaxation. Only 42 per cent of the officers and 25 per cent of the enlisted men thought that even the first year of postretirement life would involve a decline in their economic well-being. As to the longer-range outlook, hardly any of these men (3 per cent) thought that they would have lower incomes five years after retirement than they had in the service, and 46 per cent of both officers and enlisted men expected to be "much better off." Few thought that they would make less use of their skills and abilities in their second career, and few envisioned great difficulty in finding a job equal to the one they held in the service.

Further evidence of high optimism about ease of transition is seen in the finding that most men expected to be able to find appropriate civilian jobs without extensive retraining—only 45 per cent of the officers and 27 per cent of the enlisted men had made any plans for postretirement education or training at the time they were about to retire. While about two-thirds of the officers and half of the enlisted men thought that they might need some additional training to qualify themselves for the civilian jobs they hoped to get, this was largely visualized as training that could be gotten on the job. Many officers, however, did intend to do further academic work, either to complete a Bachelor's degree or to acquire a graduate degree.

The actual employment outcomes observed in following up these men six months after they retired (and the record of those who had preceded them into retirement during the previous two and a half years) showed that these expectations of ready and successful transition were somewhat overoptimistic.

However, the employment picture of the retirees on the whole supports the assumptions of the feasibility of reliance on a second-career pattern. The majority of the retirees do achieve quite satisfactory civilian employment fairly readily, although often at lower levels of skill utilization and remuneration than they anticipated. Further, many of these unsuccessful individual outcomes do not appear interpretable as indicators of civilian-military disjunction but, rather, point in the direction of greater similarities between the two systems.

EMPLOYMENT STATUS

After six months of retirement, the great majority of the men in the BSSR sample was in the labor force, mostly as job holders (seventeen officers and forty-five enlisted men were self-employed).

Similar findings showing even higher levels of full-time employment emerge from the DOD Survey data on retirees who had been in the work force somewhat longer. In both the BSSR and DOD Surveys, the proportion of those working full time is higher among enlisted men than among officers. Contrary to an assumption made in the Michigan Study, however, it would appear that the higher proportion of full-time employment among enlisted men is a consequence of the need for income, rather than relatively better employment opportunities. Non-employed officers are more often in school or voluntarily retired, whereas non-employed enlisted men are more often actively looking for work. The relatively serious employment problems of one group of enlisted men—former army personnel—are especially worth noting: a fourth of the army enlisted men were still looking for work six months after their retirement in May, 1964.

The longitudinal data available from the DOD Survey show a lower unemployment rate among the earlier retirement cohorts. For both officers and enlisted men who were retired between 1958 and 1959, only 4 per cent were looking for work at the time of the survey in 1963. An additional 1–2 per cent had despaired of finding a job and had given up looking, and another 1 per cent were about to begin looking for work. Although the figures are small, there is a disturbing uptrend in the unemployment figures each year between 1960 and 1962, so that, for officers, 5 per cent of the 1961 retirees were looking for work and 7 per cent of the 1962 retirees. For enlisted men, the figures are 4 per cent of the 1960, 6 per cent of the 1961, and 8 per cent of the 1962 cohorts. This trend may indicate a fairly slow adjustment to the job market by some retirees, or slightly increasing difficulty in getting placed. There has been some speculation that a number of the openings in the economy for these second careers are in interstices of limited capacity and that, consequently, progressively greater difficulties can be expected as the number of retirees seeking employment climbs.[16]

Our data on the specific occupational patterns of employed retired military personnel provide some basis for determining whether the penetrability that has been observed thus far is confined to interstitial roles, on the one hand, or is due to broader structural similarities of the military and civilian work worlds.

JOBS AND EMPLOYERS

Officers, as well as enlisted men, find work in a wide variety of fields and with practically every type of employer. The tremendous diversity of jobs—as shown in the amorphous nature of Table 1—is in itself a testimony to the broad range of "transferable skills" (or perhaps, more realistically, the generalized skill structure) which now characterizes the military establishment. Certain areas of concentration stand out, and these, seemingly, are closely related to specific military career patterns.

A preference for affiliation with specific types of large bureaucratic organizations (see Table 2) is clearly related to the civilian job roles for which most of these men

[16] Biderman, "The Prospective Impact of Large Scale Military Retirement," *op. cit.*, pp. 88–89.

TABLE 1

OCCUPATION IN 1963 OF SERVICE PERSONNEL RETIRED BETWEEN 1960 AND 1963

(DOD SAMPLE)

OCCUPATION	OFFICERS		ENLISTED MEN	
	N	%	N	%
Salesman	116	14	136	7
Personnel	32	4	33	2
Financial	36	4	21	1
Business executive	95	12	31	2
Other business occupation	104	13	125	7
Skilled craftsman	23	3	302	16
Semiskilled or skilled factory work	1	*	107	6
Engineering	74	9	42	2
College teaching	11	1		
High school or elementary school teaching	40	5	10	1
Physician	3	*		
Other professional occupation	52	6	38	2
Clerical	30	4	126	7
Electronic technician	14	2	78	4
X ray technician	3	*	25	1
Other technician	10	1	42	2
Other technical occupation	37	4	97	5
Service occupation	50	6	358	18
All others	101	12	340	17
Total	832	100	1 911	100

* Less than 1 per cent

Source: DOD Survey, 1963, special tabulations [illegible]

TABLE 2

PRERETIREMENT PREFERRED EMPLOYER BY ACTUAL CIVILIAN EMPLOYER

ACTUAL EMPLOYER POSTRETIREMENT	TOTAL		PRERETIREMENT PREFERENCE							
			Preferred		Acceptable		Unacceptable		No Answer	
	N	%	N	%	N	%	N	%	N	%
Large business	285	100	101	35.5	134	47.0	12	4.2	38	13.3
Medium business	192	100	57	29.7	83	43.2	4	2.1	48	25.0
Small business	255	100	75	29.4	108	42.4	9	3.5	63	24.7
College, university	30	100	14	46.7	12	40.0	1	3.3	3	10.0
Secondary or elementary school	27	100	8	29.6	7	25.9	2	7.4	10	37.1
Medical institution	40	100	14	35.0	9	22.5	8	20.0	9	22.5
Private non-profit	10	100	2	20.0	5	50.0	0	0.0	3	30.0
Federal government	168	100	124	73.8	27	16.1	2	1.2	15	8.9
State or local government	68	100	28	41.2	25	36.8	1	1.5	14	20.6

see themselves qualified and in which they are indeed utilized. For officers, this was often in administrative, sales, or educational work. (The sales category is complex, since it covers two very different fields, so-called high-level sales work as a manufacturer's representative and direct sales to consumers, such as insurance and real estate.) Among enlisted personnel, skilled craftsmen, clerks, and service workers (this category includes guards, policemen, firemen, etc.) predominated. Typically, then, these are non-technical occupations—only 16 per cent of the officers and 14 per cent of the enlisted men who retired between 1960 and 1963 reported that they were working in engineering and technical jobs. Among the most recent retirees, the proportion of enlisted men in technical work was even lower. This may be so because technically trained personnel are underrepresented among twenty-year retirees; possibly such men either tend to leave the service earlier for attractive civilian opportunities or, in some instances, are retained by the armed forces past the twenty-year period.

One clear area of employment concentration with respect to employers is the government sector. Enlisted personnel surveyed prior to retirement gave the federal government a two-to-one preference over any other type of employer, whereas officers expressed equal preferences for business or government employment. The proportions that actually became government employees proved to be the same for officers and enlisted men.

The interest in government employment is, of course, an extremely realistic adaptation from several points of view. The government sector (federal, and especially state and local) is growing much more rapidly than the private sector and, consequently, is in a better position to absorb newcomers. Furthermore, the bureaucratic problems of integrating middle-aged newcomers (who usually aspire to middle-level jobs) can be handled more easily in government agencies than in private industry where the seniority system—with or without union regulation—may create difficulties for lateral entry.

We do not know to what extent the retirees were aware of the advantage of government employment for people like themselves. We do have evidence, however, that government employees—to a much greater extent than men who landed other types of jobs—were actually those who had expressed an early preference for this type of employment (Table 2). Only among those who found university positions does the number of matches with preretirement preferences even begin to approach an equivalent proportion.

MILITARY SPECIALTY, RANK, LEVEL OF EDUCATION

Military specialty and, more significantly, rank and level of education are closely related to several indicators of civilian job adjustment such as employment status, salary, and perceived job-finding difficulties. As one might expect, men whose military job specialties were in high-demand fields where there are currently shortages found themselves placed most easily. But the relationships are not so automatic and clear-cut as one might expect. Among officers—considering only those specialty groups represented by sizable numbers of men in our sample—those with specialties in budgeting and in research had exceptionally high employment rates (over 85 per cent employed full time within six months), while those in ordnance and signal operation, as well as aircraft pilots, least often worked full time (65–70 per cent) and were more often active job seekers (8–10 per cent). In the case of the relatively small number of budget officers, it may be a case of a sought-after technical skill as well as specialized know-how that is of particular interest to certain groups of industries.

The high unemployment rate among pilots is noteworthy in view of the complaint by the air transportation industry at the time of the survey of a severe shortage of air crews. The age of the retirees, presumably, is a key factor—not because they are now too old to fly in commercial aviation, but

because the seniority system of the industry would have required them to stay too long in very low-paying, semi-apprentice roles. Non-transferability of seniority status in general is probably a greater barrier to interpenetrability than non-transferability of skill. In this respect, at least, the more like the military system civilian-employing institutions become, the greater the problems attendant upon second careers.

Differences in job getting among the enlisted specialties were smaller than among the officers. The only outstanding exception was ground combat specialists, among whom only 71 per cent were working and 15 per cent looking for jobs.

SKILL TRANSFER

It is difficult to make a valid assessment of actual skill transfer, given the necessarily broad job categories, military and civilian, to which complex job descriptions have to be reduced. Judging from job titles alone, close relationships between military and civilian occupational specialties apparently occur only in a minority of cases. Such relationships obtain more often for enlisted men than for officers, probably because the military duties of many officers are of an administrative managerial rather than technical-skilled nature. But, even among enlisted men, close correspondence between military specialty and civilian job is far from universal. Even in the military specialties, where transfer appears most likely (such as medical and dental specialties, electronic, electrical, and mechanical repairmen; and craftsmen), judgments on the basis of broad job categories indicate that no more than one-third to one-half moved into directly comparable civilian jobs (Tables 3 and 4). More detailed

TABLE 3

MAJOR MILITARY SPECIALTY AND TYPE OF CIVILIAN JOB—OFFICERS (BSSR SAMPLE)
(IN PERCENTAGES)

Major Military Specialty	Total		Type of Civilian Job						
	N	%	Professional	Business and Managerial	Technical	Clerical	Sales	Skilled	Service and Other
Command, management planning, intelligence and communications	88	100	24	32	3	5	25	6	5
Engineering	26	100	47	11	11	4	19	8	
Professions (law, medical, clergy, education)	18	100	60	11	6		17		6
Supply, transportation services	40	100	15	45	2	13	23		2
Personnel, finance, public relations, information	42	100	21	36	2	7	24	5	5
Security	4	100	*	*					
Aircraft	81	100	22	31	5	4	32	5	1
Ordnance maintenance and repair	34	100	9	21	18	9	28	15	
Research and development and other	32	100	31	19	6	16	22	3	3
Enlisted specialties	26	100	16	16	4	20	24	4	16
Total†	391	100	24	28	6	8	25	5	4

* Too few cases to compute percentages

† Excludes (11) unknown and no answer

breakdowns for a few selected military specialties confirm this impression.

One consistent finding was that the same military specialty groups in which relatively large numbers of men were unemployed six months after retirement also turned out to have the largest proportion of unrelated and usually downwardly mobile placements, that is, jobs in the service trades or in sales work. In terms of civilian income, men in these specialties tended to be at the bottom of the scale. This is particularly the case among those who retired as enlisted men (Table 5). Thus, there undoubtedly are very real transfer problems in certain specialties, including some which the military literature claims have high transferability (aviation and engineering, *for example*).

Additional analyses suggest that in most instances the specific skill component, important as it may be in some high-level, technical shortage fields, is not the dominant element in "successful" transfer.[17] These analyses, which cannot be described in detail here, included the construction of an index of "transferability" as well as the examination of variables in addition to those examined above.

TABLE 4

MAJOR MILITARY SPECIALTY AND TYPE OF CIVILIAN JOB—ENLISTED MEN (BSSR SAMPLE) (IN PERCENTAGES)

Major Military Specialty	Total		Type of Civilian Job						
	N	%	Professional	Business and Managerial	Technical	Clerical	Sales	Skilled, Semi-skilled	Service and Other
Combat	79	100	3	11	4	15	9	30	28
Electronic equipment repairmen	79	100	8	6	31	11	10	24	10
Communications and intelligence specialists	49	100	4	14	10	10	16	27	19
Medical and dental specialists	40	100	2	2	35	8	8	20	25
Other technical specialists	35	100	6	14	20	9	28	17	6
Administration specialists and clerks	284	100	4	16	2	31	14	16	17
Electrical, mechanical equipment repairmen	275	100	5	7	4	8	8	50	18
Craftsmen	89	100	1	8	4	12	4	57	14
Service and supply handlers	211	100	1	16	1	16	7	21	38
Officer specialties	17	100	6	18	22	12	12	12	18
Total*	1,158	100	4	12	7	16	10	30	21

* Excludes (65) no answers

Judging from detailed data collected in separate employer and counselor surveys, the retired serviceman seems to be evaluated in common-denominator civilian terms rather than on the basis of his specific military-acquired skills. This means primarily education, plus personality-type qualifications, for which rank achieved is one indicator.[18]

[17] Sharp and Biderman, *op. cit.*, pp. 151–65.

[18] The only instance in which specific military experiences are probably an important asset is in the case of employment in government and defense in-

There is also more indirect evidence in our survey material that specific job matching was probably not attempted by employers in the majority of cases. This was true both at the time these men were hired and when they were assigned. The retirees' own perceptions point to a feeling of relatively low utilization of their military skills in their civilian occupations, contrary to their expectations.

This is one area—perhaps the outstanding one—where the military-to-civilian transition was unsatisfactory from the point of view of the individual. Lack of skill utilization by the military was not a prevalent grievance. In answer to a preretirement question, 71 per cent of the officers and 67 per cent of the enlisted men indicated that the service had utilized their skills and abilities a great deal (the extreme positive response). In addition, anticipations for skill use in civilian life were high. Yet these hopes were disappointed, especially for men with relatively low educational achievement (less than college degree for officers; no college at all for enlisted men). It would appear from these data that it is those officers and enlisted men who are still able to make the grade in the service on the strength of their demonstrated abilities, rather than formal education, who are least able to match this status in civilian jobs.[19] At this point, formal educational attainment, rather than skill, becomes the measure of acceptance and placement.

However, in the military context too, the uneducated, self-made man is becoming increasingly rare: the cohort under study may well be one of the last ones which includes a significant number of such career persons.

Turnover analyses show that officers and enlisted men "across the board" experienced disappointment with the utilization

TABLE 5

MAJOR MILITARY SPECIALTY AND MEDIAN CIVILIAN INCOME IN 1963 JOB HOLDERS (DOD SAMPLE)

Military Specialty	N	Median Income
Officers		
Personnel and administration	13	$ 5,515
Medical, law, and other professional	11	9,500
Line	103	6,325
Staff	125	5,715
Supply and transport	99	6,165
Ordnance and maintenance	96	6,180
Signal-electronics, communications	47	6,900
Engineering	58	7,365
Finance and accounting	48	7,000
Research and development	37	10,570
Other	26	6,200
Enlisted men		
Combat	134	3,980
Electronic technician	219	5,570
Other technical	137	5,085
Administrative and clerical	411	4,510
Mechanical and repair	585	4,845
Craftsman	110	4,640
Services	173	3,700
Other	80	5,000

Source: DOD Survey, 1963, special tabulations for BSSR OMAT study.

of their skills in their civilian jobs. This was true despite the perceptions of the large majority of being at least as well qualified as civilians doing the same work. Experience on the job more often than not raised the retiree's evaluation of his skills relative to civilian colleagues.

Apparently, there is a frequent downgrading by the civilian occupational structure of the specific skill component, which

dustries, where certain technical or bureaucratic know-how or personal connections might be an asset. It should be noted, however, that these surveys show fewer than 30 per cent (20 per cent in the DOD Survey and 28 per cent in the BSSR Study) of all officer respondents working for large business establishments, of which defense industries are only one subgroup. For enlisted men, the proportion is even lower.

[19] Mayer N. Zald and William Simon, "Career Opportunities and Commitments among Officers," in Morris Janowitz (ed.), *The New Military*, pp. 257–85.

the military ideology tends to emphasize as a man's unique contribution, in favor of categorical criteria, such as rank and education. Although both systems continue to pay a good deal of lip service to the individualistic "skill" element in the total occupational image, military institutions have been more supportive of the concept than comparable civilian settings. Of course, we need to keep in mind that in the civilian job market we are dealing with

TABLE 6*

EMPLOYMENT STATUS AND EDUCATION LEVEL IN 1963 (DOD SAMPLE)
(IN PERCENTAGES)

Education Level	Employed Full Time	Not Employed Full Time†
Officers (*N* = 1,003):		
Not high school graduate	61	39
High school graduate. .	71	29
Some college. . .	74	26
College graduate	78	22
Enlisted men (*N* = 2,231):		
Not high school graduate	72	28
High school graduate	82	18
Some college. . . .	82	18
College graduate .	72	28

* DOD Survey, 1963, special tabulations for BSSR-OMAT Study.

† Includes part-time employed, full-time students, job seekers, and retired.

entrance criteria which are usually more categorical than subsequent advancement requirements which are reflected in the military experiences of the retired.

KEY ROLE OF EDUCATION

The relationships between educational achievement and job status as well as job success early in the second career are by far the strongest of all examined. For example, Table 6 shows a steady progression between educational level and gainful employment. Table 7 shows that reported civilian use of skills by officers and enlisted men is greatest among those with some college or a college degree. Particularly handicapped are the officers who do not have high school diplomas. Clearly, in spite of a twenty-year career and demonstrated work aptitude, they suffer the rejection which the non–high school graduate almost universally encounters in our present society. Income data further confirm the premium which the civilian employer seems to be putting on education (Table 8).

Equally impressive is the "carry-over" effect of military rank. Of course, rank and education are intercorrelated, and both in turn correlate with our indicators of successful civilian occupational adjustment, such as income, number of jobs held since retirement, and perception of skill utilization. For example, in the DOD data, there is a strong relationship between grade and number of jobs held since retirement, suggesting either that the higher ranks more often landed satisfactory first jobs or—more likely—that the same qualities and characteristics which led to promotion in the service were also conducive to success on the first civilian job. These relationships obtain for both officers and enlisted men although, proportionally, fewer enlisted men hold only one job following retirement.

Similar differences were found in perceived difficulties in job finding; for example, 65 per cent of the enlisted men in grade 8 reported "no difficulty" compared with 47 per cent of those who retired in grade 5. Here again, it is the legitimation conferred by the rank and the degree of generalized social aptitude which apparently are decisive, rather than specific skill offerings by the applicants.

CONTINUING NEED FOR TRAINING AND RETRAINING

The experience of the retiree with training and retraining for civilian jobs mirrors the modern needs of many workers as they attempt to keep abreast of rapid changes in their fields or to undertake new jobs. No doubt, it also reflects the retirees' realization that the civilian world puts considerable emphasis on formal training, a fact which was only imperfectly recognized pri-

TABLE 7

SELF-REPORTED COMPARISON BETWEEN CIVILIAN AND SERVICE USE OF ABILITIES BY EDUCATIONAL LEVEL (DOD SAMPLE)
(IN PERCENTAGES)

Educational Level	Total		Civilian Use Is.				
	N	%	Much Greater	Greater	Same	Less	Much Less
Officers:							
Not high school graduate	15	100	.	7	20	13	60
High school graduate... ...	151	100	13	9	28	23	27
Some college .	415	100	12	12	22	28	26
College graduate	226	100	14	15	32	23	16
Total	807*	100	13	12	26	25	24
Enlisted men:							
Not high school graduate .	357	100	20	9	23	23	25
High school graduate .	1,109	100	16	12	20	26	26
Some college	410	100	23	15	18	22	22
College graduate	15	100	20	20	34	13	13
Total	1,891†	100	18	12	20	25	25

* Excludes (26) no answers

† Excludes (20) no answers

Source: DOD Survey, 1963, special tabulations for BSSR OMAT Study

TABLE 8

EDUCATIONAL LEVEL AND EARNED INCOME IN 1964 OF RETIREE JOB HOLDERS (BSSR SAMPLE)
(IN PERCENTAGES)

Earned Income	Educational Level				Total
	Not High School Graduate	High School Graduate	Some College	College Graduate	
Officers	(N = 24)	(N = 43)	(N = 183)	(N = 145)	(N = 395)*
Under $3,000	12	2	3	2	3
$3,000-$3,999 ..	4	0	9	1	6
$4,000-$4,999	21	19	17	6	14
$5,000-$7,499	38	25	26	23	25
$7,500-$9,999	4	19	14	22	17
$10,000-$14,999	4	5	10	22	13
$15,000 or more .		2	3	14	7
Commission only	17	19	18	10	15
Total	100	100	100	100	100
Median income	$5,830	$6,930	$6,995	$9,490	$7,785
Enlisted men:	(N = 373)	(N = 608)	(N = 192)	(N = 14)	(N = 1,187)
Under $3,000	19	11	8	14	13
$3,000-$3,999 ..	27	17	16	1	20
$4,000-$4,999 ..	21	27	18	14	24
$5,000-$7,499 ...	25	34	41	44	32
$7,500-$9,999	3	4	8	7	4
$10,000 or more .	1	1	3	7	1
Commission only	4	6	6	14	6
Total...	100	100	100	100	100
Median income	$4,185	$4,815	$5,500	$6,250	$4,730

* Excludes (45) unknown

or to retirement. Retirees' views changed more from the pre- to the postretirement period in this regard than in almost any other. Whereas before retirement only about a fourth of all enlisted men thought that they needed training, 36 per cent of them thought so six months after retirement and after some experience with the job market. Among those still unemployed at the time of the follow-up survey, close to half saw the need for training. Almost half of all officers—both employed and unemployed—expressed this view. The officers were not only more training conscious than enlisted men but had also been more active, especially prior to retirement. Apparently, this activity paid off: among retired officers, almost four times more of the employed (22 per cent) had completed technical training or educational courses than of those unemployed (6 per cent).

TABLE 9

USE OF BASE FACILITIES AND EMPLOYMENT STATUS

(Question wording: Do you use the facilities of a military installation or base—medical, post exchange, commissary, etc.?) (DOD SAMPLE)

Employment Status	Yes: Uses Facilities Often	Yes: Uses Facilities Sometimes	No: Does Not Use Facilities
Officers:	($N=669$)	($N=269$)	($N=66$)
Employed full time	74%	76%	66%
Enlisted men:	($N=1,403$)	($N=571$)	($N=265$)
Employed full time	82%	77%	71%

Source: DOD Survey, 1963, special tabulations for BSSR-OMAT Study.

EFFECT OF CONTINUING MILITARY INVOLVEMENT

The survey data do not suggest that the majority of retired military are absorbed in interstitial work roles; instead, they point to strong correspondence between the requirements and reward systems of the military and civilian structures. One further bit of evidence fits in with this thesis. In the DOD questionnaire, as one measure of maintaining military ties, we asked a question about use of military base facilities by retired officers and enlisted men. In addition to the practical (financial) advantages conferred by their use, frequent contacts with these facilities presumably afford opportunities for socialization with other military people and continuing identification with some aspects of military life. It has also been frequently speculated that the concentration of military retirees in communities near large military installations (where good medical, shopping, and recreational facilities are available) tended to aggravate job-placement problems for these men by putting them into competition with one another.

As Tables 9 and 10 show, officers and enlisted men who made use of bases and facilities (and might therefore be presumed to have retained a stronger military commitment or identification) were not only not at a disadvantage during the military-to-civilian transfer process; on the contrary, by several of our measures, users did better than non-users: they held full-time jobs more often, they had less trouble finding jobs, and they made more money. These findings are another clear indicator of continuity, rather than discontinuity, in the transition patterns from military to civilian life.

Our data, in this respect, resemble the findings of Watson, who examined the social integration and identification of air force retirees with civilian and military communities.[20] The data from the present study also indicate that it is the moderate military "identifiers"—rather than "dependents" who rely heavily on continued military identification—who seem to have greater social adjustment as civilians (the indicator of "moderate identification" be-

[20] John H. Watson, "A Study of Social and Occupational Adjustment in Relation to Civilian and Military Identification of United States Air Force Retired Officers" (unpublished Ph.D. dissertation, State College, Mississippi, 1963).

ing occasional rather than frequent use of base facilities).[21]

Men who appear to have been "with it," so to speak, in their adjustment to the military institution also tend more frequently to be "with it" in terms of adjustment in their civilian careers. Thus, the begun looking for a job before retirement, having undertaken training or educational courses after retirement, and success in the service as evidenced by grade attained and satisfaction with service life all seem to be associated with each other and, of course, with postretirement adjustment.

TABLE 10

USE OF BASE FACILITIES AND EARNINGS IN 1963

(Question wording: Do you use the facilities of a military installation or base—medical, post exchange, commissary, etc.?) (DOD SAMPLE)

EARNINGS	YES: Uses Facilities Often	YES: Uses Facilities Sometimes	NO: Does Not Use Facilities
Officers:	(N = 552)	(N = 235)	(N = 52)
None	4%	2%	4%
Under $2,000	4	7	10
$ 2,000–$4,000	14	13	27
$ 4,000–$6,000	29	24	33
$ 6,000–$8,000	21	20	11
$ 8,000–$10,000	15	13	6
$10,000–$12,000	6	7	
$12,000 or more	7	14	9
Total	100%	100%	100%
Median earnings	$5,420	$6,383	$4,047
Enlisted men:	(N = 1,242)	(N = 491)	(N = 219)
None	3%	5%	9%
Under $2,000	7	9	10
$ 2,000–$4,000	26	27	33
$ 4,000–$6,000	40	36	32
$ 6,000–$8,000	18	16	10
$ 8,000–$10,000	4	5	4
$10,000–$12,000	1	1	1
$12,000 or more	1	1	1
Total	100%	100%	100%
Median earnings	$4,718	$4,517	$3,863

Source: DOD Survey, 1963, special tabulations for BSSR OMAT Study.

men who have the greatest difficulty are not those who have planned their retirement locations in a way that permits them to utilize a variety of military facilities but, rather, those who have not planned much of anything. Our data confirm that having definite second-career plans, having undertaken training while on active duty, having

[21] For further discussion of this point, see Biderman, "Sequels to a Military Career: The Retired Military Professional," pp. 330–31.

AGE AT RETIREMENT

These factors may help account for Collings' observation that officers who stayed in the service longer beyond the twenty-year mark, tended to find better civilian jobs than those who retired earlier, despite the expectation that age would be a handicap in getting a job.[22] The data we have analyzed on recently retired officers who responded to the DOD Survey in 1963

[22] Collings, op. cit., p. 76.

show no simple relationship between age and unemployment.

For enlisted men, however, there are greater proportions of unemployed in the age intervals above 46—from 10 per cent for those 44–46 years of age, 16 per cent for those aged 47–49, and 18 per cent for those between 50 and 52.

Observations regarding other segments of the labor force, as well as the data on military retired, suggest that age operates only selectively in conjunction with skill level and occupational specialty as an obstacle to employment. The lesser success of some recently retired enlisted men in being placed is primarily related to their relatively low educational level. This in turn is often associated with a naïve and shortsighted approach to job seeking. They manifest unsophisticated understanding of skill requirements and of job-placement mechanisms. For example, prior to retirement, 27 per cent of the officers and 39 per cent of the enlisted men had made no specific plans in regard to type of activity after retirement. Similarly, 45 per cent of the officers but only 27 per cent of the enlisted men had plans for enrolling in educational or technical training courses following retirement; yet more enlisted men (35 per cent) than officers (28 per cent) expected to be better off during the first year after retirement as compared with the last year of service. The educational attainment of younger enlisted men may be as much a factor in their more frequent success in finding a job as is their youth. A similar lack of know-how in dealing with the complex modern employment structure has been identified in current studies of unemployed and underemployed workers as a handicap of comparably educated groups of civilians.[23]

MILITARIZATION AND CIVILIANIZATION

The influences of the civilian and military spheres on each other have been sources of alarm for civilians and military men alike. On the other hand, Lasswell has suggested that the loss of objective distinctiveness of military roles may comprise a civilianism which is the most promising countertrend to the militarism associated with the chronic place of coercion in the affairs of nations.[24] Such a loss, however, does not necessarily reduce the strains toward distinctiveness which have been regarded as inherent in the martial calling—"that intense form of parochial allegiance which appears essential to military life."[25] The convergences of the occupational structures may lead in a different direction from that suggested by Lasswell. Lacking objective bases of a differentiated self-image, the military may seek it through accentuation of their peculiar symbolic and ideological qualities.

Some of the barriers confronting the retired soldier inhere in many civilians' aversions to precisely these traits—traits assumed to be intense, universal, and peculiar among military men. Accentuated military virtues can be perceived of as vices; for example, that set of attitudes referred to as "authoritarianism" and "jingoism" or those traits that are supposed to comprise the "military mind."

Soldiers generally are developing a heightened awareness that the military calling is not likely to be a lifelong one. This will be accentuated by the sound, official advice that the military is receiving to undertake early planning for the "second career." And attention to second career needs may channel ideological and symbolic attachments of military men in directions they perceive to be compatible with their eventual civilian roles.

The extent to which military-civilian tensions are avoided may depend upon a relatively favorable job market for the

[23] See, e.g., John B. Lansing and William Ladd, *The Propensity To Move* (Washington: U.S. Government Printing Office, 1964).

[24] Lasswell, *op. cit.*; also see Lasswell, "The Garrison State," *American Journal of Sociology*, XLVI (1941), 455–68.

[25] Maury D. Feld, "Military Self-Image in a Technological Environment," in Morris Janowitz (ed.), *The New Military*, p. 1[illegible].

retiree. Our data suggest that generalized dispositions and abilities to adjust to, and identify with, employing institutions tend to outweigh inclinations peculiar to military identification. Yet, only tenuous inferences are possible regarding the significance of these attitudinal dimensions.

Specific technical skills and knowledge appear less important for successful second careers than more general and diffuse qualities. Styles of thought and of social interaction seem to figure in the subtle assessments of how a man fits and performs the job roles characteristically sought by the retirees. Although formally irrelevant, their political attitudes probably also are linked to the fit of employees to many institutions. In the absence of a direct assessment of the hypothesis that objective convergences may accentuate symbolic self-differentiation, some evidence may be developed by examining whether there occurs a narrowing of the job roles for retired military men to those institutions and roles which have been identified as notably predisposed toward certain ideological configurations. Particularly, will there be greater concentrations in such fields as sales, self-employment, small-business management, and protective services?

The commonly voiced concern is that the entry of military professionals into civilian pursuits will lead to the militarization of civilian institutions. The effects appear to be preponderantly in the opposite direction. That the influence flows in one direction, however, is not necessarily desirable, what is critical is the kind of influence, rather than the amount. Both realms may profit by the inevitable interpenetration.

Military men are particularly anxious about influences that may undermine characteristics distinctly adapted to warfare. Everyone might well be concerned about any tendencies that may detract from the manner in which the American military has served to keep domestic political conflict remarkably free from large-scale violence. largely civilian-originated politicizing influences—ideological indoctrination campaigns, voting campaigns for servicemen, and the ideology of "psychological warfare"—may serve to undermine this insulation.

Other "civilianizing" tendencies, however, will probably be advantageous. Reforms since World War II, referred to as "democratizations," have helped the military to make more rational use of the increasingly broad distribution of competence and ambition that characterize the American population. And, the military status system will probably have to yield still more to the demands of increasingly complex technology and complex bureaucracy. Yet these changes have better attuned the military personnel system to the culture from which it must draw its recruits and to which they must usually return for a second career.

In the other direction, civilian institutions presumably will not be harmed by infusions of some characteristic attributes of the military. Among these are highly universalistic ethics, an unusually rational and innovative perspective toward technology, attachment to public service goals, national (as contrasted with local) identifications, and a comfortable adaptation to functioning effectively in and around a complex body of rules (elaborate, military-like rule systems will continue to proliferate in civilian institutions quite apart from any military influence).

SUMMARY AND CONCLUSIONS

Much of the writing on the sociology of the military profession has sought to characterize its distinctive features. Recent writings, however, have dealt with various signs of the convergence of military and civilian institutions. Here we have examined evidence from studies of the employment experiences of retired military men for its bearing on four particular aspects of this convergence: structural similarities, dynamic similarities, interpenetrability, and attitudinal and ideological similarities.

The military personnel structure depends

show no simple relationship between age and unemployment.

For enlisted men, however, there are greater proportions of unemployed in the age intervals above 46—from 10 per cent for those 44–46 years of age, 16 per cent for those aged 47–49, and 18 per cent for those between 50 and 52.

Observations regarding other segments of the labor force, as well as the data on military retired, suggest that age operates only selectively in conjunction with skill level and occupational specialty as an obstacle to employment. The lesser success of some recently retired enlisted men in being placed is primarily related to their relatively low educational level. This in turn is often associated with a naïve and short-sighted approach to job seeking. They manifest unsophisticated understanding of skill requirements and of job-placement mechanisms. For example, prior to retirement, 27 per cent of the officers and 39 per cent of the enlisted men had made no specific plans in regard to type of activity after retirement. Similarly, 45 per cent of the officers but only 27 per cent of the enlisted men had plans for enrolling in educational or technical training courses following retirement; yet more enlisted men (35 per cent) than officers (28 per cent) expected to be better off during the first year after retirement as compared with the last year of service. The educational attainment of younger enlisted men may be as much a factor in their more frequent success in finding a job as is their youth. A similar lack of know-how in dealing with the complex modern employment structure has been identified in current studies of unemployed and underemployed workers as a handicap of comparably educated groups of civilians.[23]

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The military personnel structure depends

upon the majority of its members being forced to leave the service at ages ordinarily regarded as the middle of working life. Economic and psychological factors require almost all of these men to continue working until conventional retirement age. The implicit assumption is that the retirees will be able to achieve civilian employment comparable to their military status.

Evidence from studies indicates that, generally, these assumptions have operated satisfactorily: the majority of the men leaving the service have obtained jobs.

Immediately prior to retirement, the large majority of subjects voiced high confidence about their prospects for a ready and successful transition to civilian employment. Very few doubted that they possessed the skills needed to gain jobs at least equally rewarding in pay and satisfaction to those they had in the armed forces. Their sanguinity may also be inferred from the failure of all but a few to make concrete plans for employment even so much as a few months in advance of retirement.

While the outcomes of their job hunts usually fell considerably short of highly optimistic expectations, only a small minority failed to find work of some kind within a fairly short time after their retirement. Similarly, incomes and use of abilities failed to accord with their expectations, especially for those who had succeeded in their military careers despite formal educational deficiencies. Experience on the job tended to elevate rather than deflate self-estimated abilities relative to those of civilians performing the same kinds of work, and to increase their long-term prospects.

While employment covered a broad spectrum of industries and occupations, it was disproportionately high in governmental and institutional areas. There was a high degree of regional concentration in areas of high military activity, but these areas were also among those of rapid population and economic growth. Employment generally tended to be heaviest in institutions and occupations also characterized by growth—notably, bureaucratic and service fields.

The transfer from military to civilian occupations took place without much formal retraining, although those who did undergo training fared better, and a substantial number expressed a need for further training. Apparently, general qualifications —education, in particular—rather than highly specific technical skills were the most frequent bases for obtaining work. Success in the civilian job market was positively related to various indexes of success and integration with the military, rather than with military marginality.

Significant minorities of retired military personnel do experience job-finding problems, however. Furthermore, longitudinal data indicate a possibility that job finding is becoming somewhat more difficult. This may reflect respects in which military-civilian convergence has not occurred. And, many of them may be accommodated in atypical, interstitial jobs in the economy for which their military background uniquely suits them. Yet the number of these jobs is limited. Such problems may also reflect the victimization of those who fit poorly the common evolving structures —those with little formal education or those not adept at the interpersonal manipulations and symbol usage characteristic of contemporary bureaucratic life.

Certain structural convergences, moreover, decrease the ease of interpenetrability; for example, civilian institutions which develop rigid seniority systems and graded steps of advancement similar to those of the military that are barriers to the lateral entry of individuals. Many civilian institutions are initiating systems of early retirement and force-out. They experienced a period of rapid growth followed by relative stabilization of size during the same time span as did the military. Prosperity, full employment, and rapid

technological change shape the environment in which both must function, meeting similar problems of skill obsolescence, of providing intra-institutional mobility opportunities, and of being able to select and cull while simultaneously cementing the essential loyalties of personnel.

Various other possible consequences of the second-career pattern that may operate toward "militarizing" civilian institutions or "civilianizing" military ones have been examined. Convergences in either direction may be desirable or undesirable, depending upon their particular substance.

BUREAU OF SOCIAL SCIENCE RESEARCH, INC.
WASHINGTON, D.C.

Occupational Inheritance: A Cross-national Analysis[1]

Phillips Cutright

ABSTRACT

The level of "pure mobility," or what is termed here "occupational inheritance," in thirteen nations is linked to a set of independent variables drawn from a theoretical statement by Kingsley Davis. Davis argues that a certain level of "selection by talent" and hence mobility must exist if economic development is to proceed. Measures of technology, national structures facilitating mobility, family size, and the rural composition of the manual stratum are correlated against our measure of occupational inheritance. We account for 77 per cent of the variation in inheritance with these variables, when sons of farm fathers are included with the urban manual stratum. A separate analysis of occupational inheritance of non-farm sons in nine nations explained 59 per cent of the variation in inheritance. A discussion of the unexplained variance indicated that a substantial part of this variance can be blamed on measurement error, especially in the dependent variable. Efforts to link measures of political structure and stability, and the achievement motive to variation in national mobility rates (measured either in terms of pure mobility or total mobility), failed.

Investigation of differences in the degree of "openness" of national occupational structures to intergenerational mobility has been thwarted by a lack of reliable and valid data, conceptual and measurement confusions, and a theory that could order empirical research. In the past decade empirical analysts have arrived at remarkably different conclusions: Rogoff, Lipset and Bendix, and later Matras and Marsh, emphasizing that a similarity in mobility rates among industrialized nations exists, while Fox and Miller, and Yasuda have pointed to national differences.[2] Although poor data and a limited case base may, in part, explain some of the differences among these studies, the differences also reflect the interests of the writers, their definitions of what aspect of mobility should be measured, their choices of measures, and their decisions as to whether the entire national population or only a part of it were to be examined. With the exception of a recent analysis (Fox and Miller[3]) of upward and downward rates, no systematic attempt has been made to link independent variables to mobility rates. And, with the exception

[1] My thanks to K. McClelland for research assistance and to Vanderbilt University for financial assistance.

[2] N. Rogoff, "Social Stratification in France and in the United States," in R. Bendix and S. M. Lipset (eds.), *Class, Status, and Power* (Glencoe, Ill.: Free Press, 1953); S. M. Lipset and R. Bendix, *Social Mobility and Industrial Society* (Berkeley and Los Angeles: University of California Press, 1960); J. Matras, "Differential Fertility, Intergenerational Occupational Mobility and Change in the Occupational Distribution: Some Elementary Interrelationships," *Population Studies*, XV (November, 1961), 187-97; R. Marsh, "Values, Demand, and Social Mobility," *American Sociological Review*, XXVIII (August, 1963), 565-75; T. Fox and S. M. Miller, "Economic, Political and Social Determinants of Mobility: An International Cross-Sectional Analysis," *Acta Sociologica*, IX, Fasc. 1-2 (1965), pp. 76-93; T. Fox and S. M. Miller, "Occupational Stratification and Mobility: Intra-Country Variations," in R. Merritt and S. Rokkan (eds.), *Comparing Nations* (New Haven, Conn.: Yale University Press, 1966), pp. 217-37; S. M. Miller, "Comparative Social Mobility: A Trend Report," *Current Sociology*, IX, No. 1 (1960), 1-89; S. Yasuda, "A Methodological Inquiry into Social Mobility," *American Sociological Review*, XXIX (February, 1964), 16-23.

[3] T. Fox and S. M. Miller, "Economic, Political and Social Determinants of Mobility," *op. cit.* See P. Cutright, "Studying Cross National Mobility Rates," *Acta Sociologica* (forthcoming, 1968), for criticism of the Fox and Miller articles.

of Yasuda and Matras,[4] there are no systematic efforts to compare more than two national mobility rates corrected for structural change.

Poised against the conflicting empirical literature is a powerful theoretical statement by Davis[5] claiming that intergenerational mobility is a necessary condition for economic development. If Davis is correct, a clear relationship between measures of economic development and occupational mobility should exist. We will test hypotheses derived from Davis' theory using mobility data from the better studies used by earlier writers, excluding those studies that time has found to be unrepresentative, and adding studies that have recently become available.[6]

THE CONCEPT AND MEASUREMENT OF OCCUPATIONAL INHERITANCE

Studies of national mobility rates must compress detailed occupational classifications to make comparisons feasible.[7] Following previous analysts, we will assume that a division can be made between manual and non-manual work, that this division is a relevant criterion, and that the resulting fourfold tables for each nation can be compared. We also accept the classification of workers in agriculture with urban manual workers, under certain conditions. Assuming that we also believe that the available surveys reflect the actual level of intergenerational mobility, what shall be done with the numbers in the fourfold tables?

The purpose of this study is to measure the openness of the occupational structure to movement across the manual–non-manual divide, and to explain, using certain independent variables, differences in the amount of such movement. To the extent that sons remain in the same occupational strata as those of their fathers, we have a system of high occupational inheritance; but, if they tend to move to a different stratum, we have lower occupational inheritance. Before comparing the level of occupational inheritance among nations, we want to remove that part of total mobility across stratum lines that is the result of structural change in the distribution of occupations between the fathers' and sons' generations. Our measure of occupational inheritance should, therefore, be similar to Yasuda's concept of "pure mobility" and Marsh's concept of mobility that is independent of the changing demand for different classes of workers over time.[8]

[4] Yasuda, *op. cit.*, Table 4, and Matras, *op. cit.*, p. 194. Marsh, *op. cit.*, p. 575, has a brief analysis of "elite" mobility within "high" and "low" demand countries, concluding that demand accounts for most of the variation among his ten nations.

[5] K. Davis, "The Role of Class Mobility in Economic Development," *Population Review*, VI (July, 1962), 67–73.

[6] Data for the thirteen nations used in this study are from the following sources: West Germany, Hungary, Finland, France (Desabie study), Netherlands, Great Britain, Japan, Denmark, and Norway (Miller, *op. cit.*); U.S. data (U.S. Bureau of the Census, "Lifetime Occupational Mobility of Adult Males: March 1962," *Current Population Reports*, Ser. P-23, No. 11 [May 12, 1964], Table 1); Italy (J. Lopreato, "Social Mobility in Italy," *American Journal of Sociology*, LXXI [November, 1965], 311-14); Yugoslavia (V. Milic, "General Trends in Social Mobility in Yugoslavia," *Acta Sociologica*, IX Fasc. 1-2 [1965], 120); Sweden (G. Carlsson, *Social Mobility and Class Structure* [Lund: C. W. K. Gleerup, 1958], Table 6.1).

[7] Many writers have noted that the amount of mobility observed will, in part, be a function of the number of occupational categories available. The "per cent mobile" increases with the number of categories. Fox and Miller, "Occupational Stratification and Mobility," *op. cit.*, have compared upward and downward rates in four nations using five occupational categories. We can use thirteen nations if we restrict ourselves to dichotomy of urban non-manual versus all others, and while this is crude, it increases the case base. Data on only nine nations are available if we want to examine the mobility of the sons of non-farm fathers exclusively, and even then we can only dichotomize the sample.

[8] See Marsh, *op. cit.*, p. 566, for a discussion of "demand" or "forced" mobility and social distance mobility—mobility that is independent of structural change. Marsh argues that mobility studies should look at social distance mobility before inferring value and normative differences to nations that are high or low on mobility.

In many early studies, the percentage of sons of manual fathers occupying non-manual positions (upward mobility rate, using either urban manual fathers or urban plus rural manual fathers in the denominator) has been used as the measure of the degree of occupational inheritance. While the downward rate (percentage of the sons of non-manual fathers moving into urban manual positions or urban manual plus agricultural positions) is noted, it is of less interest to the investigator. However, neither the upward nor the downward rate is a valid comparative measure if the degree of occupational inheritance is what we want to measure. Both upward and downward rates are vulnerable to shifts in the occupational structure between generations (the problem of structural change or changing demand), and both are also vulnerable to a lack of comparability when the proportions of the labor forces in different nations in either the manual or the non-manual stratum are not identical (the problem of varying marginals). We consider the problem of varying marginals first.

Assuming *no* structural change between the fathers' and sons' generations, if we compute an upward mobility rate and find that all nations are identical, can we then conclude that the degree of occupational inheritance is identical? This could be our conclusion only if the proportions of the manual labor forces in all nations were also identical. This is true because an identical upward rate for nations with varying marginals will always produce different downward rates. Do we then use the similarity in the upward rates, or do we use the differences in the downward rates, as our criteria of occupational inheritance?

Of course, structural change does exist in all nations, and both the upward and downward rates are vulnerable to distortions resulting from this factor. While the sociologist may examine the composition of the manual or the non-manual stratum in terms of the occupant's class of origin, he should not confuse upward or downward mobility caused by economic or demographic factors[9] with the openness of the system. (Nor should he deny the importance of structural shifts to the amount of total mobility.)

Most comparisons of national mobility rates have used one or both of these traditional measures. It is impossible to say whether the analysts who conclude that no differences exist are correct, or whether

[9] See Matras, *op. cit.* In a reanalysis of nine of the studies used earlier in Lipset and Bendix, *Social Mobility and Industrial Society*, Matras removed the effect of occupational shifts and differential fertility. His analysis does not report what proportion of the reduction in total mobility should be assigned to each of these two factors, but recent research indicates that class differences in fertility based on marital fertility statistics exaggerate class fertility differences, since more members of the lower-class groups do not marry, do not remain married, and, in developed countries, most practice birth control in marriage (see National Academy of Sciences–National Research Council, *The Growth of the U.S. Population* [Washington, D.C.: National Academy of Science, 1965], p. 11; for Great Britain, see J. Gibson and M. Young, "Social Mobility and Fertility," in J. E. Meade and A. S. Parkes [eds.], *Biological Aspects of Social Problems* [New York: Plenum Publishing Corp., 1966], pp. 69–80). A recent study of a related issue notes that the assumption is false that the standard mobility tables actually represent the occupational distribution of the fathers of the sons (the sons being the actual respondents in the sample) (see O. D. Duncan, "Methodological Issues in the Analysis of Social Mobility," in N. J. Smelser and S. M. Lipset [eds.], *Social Structure and Mobility in Economic Development* [Chicago: Aldine Publishing Co., 1966], pp. 51–97). Duncan's point is emphasized by noting that if we take 1930 and 1960 as our time span between generations about one-third of the "fathers" in the 1930 U.S. labor force will still be in the 1960 labor force. Duncan estimates that nearly one-half of the men in the 1930 labor force do not actually have sons in the 1960 labor force, while the other half had, perhaps, an average of two sons each, at work. The mobility table does, however, measure the mobility experience of sons whose fathers were in a given occupational stratum, even if it does not accurately reflect the mobility in the thirty-year period preceding the time of the sample. The heterogeneity of the age structure of the sons in the available samples precludes an easy solution to these problems, and although I have considered an adjustment of the marginals adequate to control for structural and fertility differences, I am aware that this may not be perfectly adequate.

those who find differences are correct. Neither measure controls the problem of structural change, and neither solves the problem of varying marginals.

Some cross-national analysts have used the percentage of the total sample in a different stratum from the class of origin as a single measure. At best, this provides only a rough guide to the openness of the system, although it is good measure, if one can stick to its operational meaning and is content with that.[10]

A recent review of measures used to gauge the degree of occupational inheritance has noted that Yule's Q controls the effects of structural change and provides a single measure that takes into account both upward and downward moves.[11] The Q-value has the virtue of being 1.0 when there is complete occupational inheritance, 0.0 when there is no inheritance, and -1.0 when there is a complete reversal of inheritance. A value of 1.0 can be obtained even when considerable mobility exists *if* that mobility is simply the result of a shift in the distribution of occupations to manual and non-manual strata between generations. We will use Q as our measure of occupational inheritance. What factors should be associated with the variation in Q?

NATIONAL CHARACTERISTICS INFLUENCING OCCUPATIONAL INHERITANCE

A theoretical article by Davis provides us with a "structural-functional" analysis of the relationship of mobility to economic development.[12] Davis argues that mobility must occur in a changing economic order if selection to positions is to be on the basis of talent rather than ascribed status. Further, selection on the basis of talent is a necessary condition for economic development. Some mobility must occur because economic change eliminates demand for jobs held by some fathers, and the sons must therefore work in different occupations. Davis' emphasis, however, is that mobility must also occur because selection by talent has a beneficial influence in maintaining economic growth. Clearly, the society must make some provision for the training and motivation of the talented sons of manual fathers if these sons are to become competitive with the sons of non-manual fathers.[13] Finally, small family

[10] Lipset and Bendix' famous conclusion that "the overall pattern of social mobility appears to be much the same in the industrial societies of various Western countries" (see Lipset and Bendix, *Social Mobility and Industrial Society*, p. 13) is apparently based on the similarity of the percentage of the total non-farm population that moved up or down in the United States, Germany, Sweden, Japan, and France. It is worth noting that their conclusion was restricted to the non-farm population and that all of their studies (the same studies were reanalyzed by Matras, *op. cit.*) have been replaced with larger and presumably more representative samples in the past few years. See n. 43 below for an example of two identical non-farm total mobility rates in nations with very different pure mobility (i.e., inheritance) values.

[11] See Yasuda, *op. cit.*, for elaboration of Q to mobility tables with more than two classes. For statistical information on Q, see J. M. Mueller and K. F. Schussler, *Statistical Reasoning in Sociology* (Boston: Houghton Mifflin Co., 1961), pp. 244–49. J. A. Davis, "Notes on Gamma" (unpublished paper, University of Chicago, 1963), remarks that Q is related to the proportional improvement in prediction over chance. Thus, a Q of 0.7 allows us to improve our prediction (assuming a fifty-fifty situation) over chance by 70 per cent, a Q of 1.0 improves prediction by 100 per cent, and so on.

[12] See Davis, *op. cit.* Davis does not operationalize the term "mobility" and therefore, makes no distinction among pure mobility (occupational inheritance), forced mobility (mobility due to structural shifts in the distribution of the labor force to manual and non-manual strata between generations), and total mobility (the sum of pure and forced moves). Nor does he specify how much mobility should occur to sustain a healthy society. He would argue, I believe, that in the absence of structural change some level of pure mobility must occur if selection by talent is to be assured although the men involved in "forced" moves are probably different in talent from those who do not move. Whether a nation with high structural mobility but low "pure" mobility is recruiting less able men than a nation with low structural but high "pure" mobility is not a central issue in our study.

[13] On the relationship of intelligence to mobility, see Meade and Parkes, *op. cit.* and Natalie Rogoff Ramsøy, "On the Flow of Talent in Society," *Acta Sociologica*, IX, Fasc. 1-2 (1965), 152-74. It is

size is related to economic development and itself facilitates mobility because sons from small families in the manual stratum are more likely to be able to take advantage of mobility opportunities. We have selected four indicators that provide operational measures of the main factors that should be associated with variation in the degree to which occupational systems are open or closed to movement across the manual–non-manual divide.

I. TECHNOLOGY AND COMPETITIVE JOB PLACEMENT

The higher the level of technology, the more complex the division of labor,[14] and greater pressure is therefore put on employers to fill positions according to the skill and training of the applicant rather than ascriptive criteria such as place of birth, family background, and age. The personal characteristics of the job applicant are viewed by employers in terms of whether the man can fill the position and do the work.[15] We hypothesize that inheritance (Q) will be negatively related to the level of technology because technology is one indicator of the pressure for competitive job placement.

Our indicator of technology is the 1929 level of energy consumption in the nation.[16] Men who are soon to enter the labor force or have recently entered the labor force[17] and who reside in a nation with a high level of energy consumption will be less likely to inherit their fathers' occupational stratum positions than men residing in nations at lower levels of energy consumption.

II. STIMULATION AND FACILITATION OF SELECTION BY TALENT

We used as our measure of the level of stimulation and facilitation of selection by talent a communications index constructed

doubtful that regression of the intelligence of the sons toward the mean could contribute much explanation to mobility tables using the manual–non-manual break.

[14] See J. P. Gibbs and W. T. Martin, "Urbanization, Technology, and the Division of Labor," *American Sociological Review*, XXVII (October, 1962), 667–77.

[15] O. D. Duncan, "Path Analysis: Sociological Examples," *American Journal of Sociology*, LXXII (July, 1966), 13, presents data that show the relationship of a father's SES to his son's educational attainment and the impact of the son's education on his occupational status at different points in his work history. The father's SES is related positively to the son's education, but the independent contribution of the father's SES to the son's SES is *virtually nil once the son's education is taken into account.* The son must "take advantage" of the opportunities offered by his family's high position if he is to remain high; and if he attains a high educational level, he can overcome the low status of his father. Duncan's analysis is based on correlations using individuals as the unit of analysis.

[16] Gibbs and Martin, *op. cit.*, p. 672, note that "societies with primitive technologies are low-energy societies, those with advanced technologies are high-energy societies. Thus, the best indicator of the level of technological development would appear to be the per capita consumption of energy." They report a .84 ρ correlation between energy consumption and their measure of the division of labor across forty-one nations around 1950. We computed T-values of energy consumption scores to insure a normal distribution (see A. Edwards, *Statistical Methods for the Behavioral Sciences* [New York: Holt, Rinehart & Winston, 1954], for discussion of T-scoring). For a single indicator, a T-scored distribution will have a mean of about 50 and a standard deviation near 10. Energy consumption data are from the United Nations, *Statistical Yearbook* (New York, various years).

[17] Because the age of sons is not controlled, the 1930 data provide only a clumsy fit of the national level of energy consumption at the time the sons were entering the labor force. In a sample drawn in 1955, sons from twenty-six to forty-five would have been from one to twenty years old in 1930; sons from forty-six to fifty-five would have been from twenty-one to thirty, etc. This points up another problem: the older sons in the sample could have higher occupational positions than the younger sons, due to intragenerational mobility. But given the higher educational level of younger sons, this may not be too serious a problem. More important, with the exception of France, all studies are heterogeneous with relation to age, and loss of cross-national comparability is minimized. For mobility by age in West Germany, see M. Janowitz, "Social Stratification and Mobility in West Germany," *American Journal of Sociology*, LXVI (July, 1968), 17. The very old and the very young are less mobile than men between twenty and sixty

from data of the 1930's.[18] This index combines two analytically distinct factors: the level of education in 1930 and the level of communications related to literacy within the nation. Our measure of the educational level of the sons is the percentage of the adult population that was classified as literate in 1930. In nations with high levels of literacy, the gulf between the literate and illiterate is virtually erased. The population tends to be homogeneous with respect to educational level, and this should result in greater competition for non-manual jobs between sons of manual and non-manual fathers. In 1930, five of the thirteen nations for which we have mobility data had less than 95 per cent of adults classified as literate, but the distribution is skewed and not amenable to product-moment correlation analysis without first transforming raw scores and adding additional indicators to build an index with a normal distribution. The *T*-scoring of literacy rates and the addition of three *T*-scored indicators of the "uses of literacy" allowed literacy to be retained in the index. One of these additional indicators, newsprint consumption per capita, is a measure of intensity of mass-media usage within the nation. The greater the consumption of the printed word, the greater the individual's exposure to the world around him. Mass-media exposure is viewed as stimulating the sons of manual workers (farm and non-farm) to move up. The number of telephones and the volume of domestic mail per capita were also included in the index as indicators of the intensity of communication within the nation. The communications index measures the extent to which educational institutions within the nation had eliminated the traditional gap between literate and illiterate, and the degree to which nations varied in the exposure of their populations to stimuli that might dispose them to strive for high-status jobs.

[18] United Nations, *Demographic Yearbook* (New York, various years).

III. RURAL BACKGROUND OF THE SONS OF MANUAL WORKERS

Since it was not possible to separate precisely the sons of agricultural workers from other manual sons in five of the thirteen nations, we chose to include all thirteen nations in our first analysis and to group farm worker sons with urban manual sons.[19] This has one further advantage: we can test the hypothesis that the rural background of manual sons will be positively related to occupational inheritance.

We expect that the higher the proportion of sons reared in farm homes, the higher occupational inheritance will be. This expectation is based on the differential distribution of educational and cultural opportunities to rural and urban populations.[20] Urban sons grow up in an environment in which educational opportunities are superior, and the skills necessary to move into non-manual jobs are more readily acquired. Also, the educational level of urban manual fathers will tend to be higher than that of rural fathers. Both the home environment and the environment outside the home should enable the son of the urban manual worker to compete for urban non-manual jobs more successfully than the son of a rural worker.

Our indicator of the rural composition of the population is the percentage of the sample of sons whose fathers are classified as agricultural workers; and, in the five

[19] Fox and Miller, "Economic, Political and Social Determinants of Mobility," *op. cit.*, also took this step to maximize the case base.

[20] See James S. Coleman *et al.*, *Equality of Educational Opportunity* (Washington: U.S. Government Printing Office, 1966). For urban and rural comparisons outside the United States, see A. L. Stinchcombe, "Economic Aspects of the Stratification Position of Farmers during Economic Development" (unpublished MS, Johns Hopkins University, 1963), Table 1. Stinchcombe uses data from UNESCO, *Monographs on Fundamental Education, #6, Progress of Literacy in Various Countries* (Paris, 1953), and other sources. The literacy gap between rural and urban narrows as the level of economic development increases.

nations where we lack precise information differentiating rural and urban manual workers, we use the percentage of the male labor force in 1930 that was reported as employed in agriculture.[21]

IV. FAMILY SIZE AND OCCUPATIONAL INHERITANCE

Davis notes that children in small families have superior life chances. The child from the small family should, therefore, tend to achieve a higher occupational status than the child from the large family, other things being equal. Recent empirical analysis of the occupational status of sons in relation to birth order and family size indicates that the oldest son has a better chance for high status than do the remaining sons,[22] and, in the United States, the sons from large families (four or more children) have poorer chances for mobility than the sons from smaller families—even after the occupational status of the father is controlled.[23] One would expect, therefore, that nations in which family size is large would tend to have high inheritance because the family size of low-status sons makes it difficult for them to take advantage of educational and other opportunities that lead to high status.

Our indicator of family size is the Gross Reproduction Rate (GRR) for the national population in the period from 1909 to 1912.[24] Although no rural-urban fertility breakdown is available for this early period, one suspects that the variance among the rural populations of these nations was much less than the variance among the urban populations. The variation in the GRR is, therefore, seen as a better indicator of the national differences in urban family size than as an indicator of differences in rural fertility. To the extent that this is a valid inference, one would expect that the GRR would have a higher positive correlation with urban occupational inheritance than with the inheritance values for the total population.

In our first analysis we take the level of occupational inheritance for all persons (urban and rural) and examine the resulting correlation matrix. In a second study we analyze the variation in the level of inheritance in the non-farm population in various nations. Following these two discussions we will probe for the more likely sources of unexplained variance and will consider several independent variables not included in our model.

OCCUPATIONAL INHERITANCE IN THE POPULATION

Our first analysis of occupational inheritance includes as manual workers all fathers and all sons employed in agricul-

[21] Data from International Labor Office, *Yearbook of Labor Statistics: 1941* (Montreal, 1942).

[22] Yasuda, *op. cit.*, shows that older Japanese sons are more likely to be stable in the upper strata and upwardly mobile from the lower strata than are "all sons." He does not, however, control for family size. This control was imposed in the work by Blau and Duncan (n. 23 below).

[23] P. M. Blau and O. D. Duncan, "Some Preliminary Findings on Social Stratification in the United States," *Acta Sociologica*, IX, Fasc. 1-2 (1965), Table 5.

[24] Datum for the United States is from W. H. Grabill *et al.*, *The Fertility of American Women* (New York. John Wiley & Sons, Inc., 1958), p. 39, and applies to 1910; Japan, from I. Taeuber, "Continuities in the Declining Fertility of the Japanese," *Milbank Memorial Fund Quarterly*, XXXVIII (July, 1960), 266, and is for 1925. It is unlikely that the rate could have been higher in earlier years (Taeuber reported 2.60—considerably higher than the 2.37 figure [the next highest] in Hungary in the 1909–12 period.) Data for all other nations are from United Nations, *Population Bulletin of the United Nations*, No. 7 (New York, 1963), pp. 93–94, and are for the years 1909–12, with the exception of Yugoslavia. The earliest datum for that nation is for 1920–24. Exact data for completed fertility in early years are unavailable and the only alternative measure was the crude birth rate, a measure that is inferior to the one used here. A son born in 1910 would be forty-five years old in 1955. For mobility samples taken in the 1950's, some men would have been born prior to 1910 and some after—a fact that aided our selection of the 1909–12 interval. A man born in 1910 would be twenty years old in 1930—the year for which we measured the level of technology and constructed our communications index.

ture as well as those in the urban working class. There are two strata: urban nonmanual and all other workers. The inheritance value for each of the fourfold tables ($N = 13$ nations) is correlated against each independent variable.[25] In Table 1 we note that the higher the level of communications, the lower the occupational inheritance (— .83), while the correlation of energy consumption and inheritance is in the same direction but is considerably lower (— .74). The intercorrelation of .90 between these two variables eliminates any possibility that the addition of information on energy consumption will aid in the prediction of inheritance, once the relationship of communications to inheritance is taken into account. This does not mean that the level of energy consumption is unrelated to inheritance: both communications and energy consumption are tightly related and both act to change the level of inheritance.[26]

For the thirteen nations, the GRR has a .62 correlation with total inheritance, but its intercorrelation of — .68 and — .66 with energy consumption and communications and its .57 correlation with percentage from rural homes eliminates it as an effective predictor of total inheritance values after we use either the communications index or percentage from rural homes. However, we should note that our measure of family size precedes the measurement of communications by some twenty years, and the possibility that the fertility level in 1910 may have had some causal relationship to the level of communications is not too farfetched. Still, we have no convincing rationale that would allow us to enter the GRR first and assign all of the variance with total inheritance to it. We do *not* reject the hypothesis that family

TABLE 1

MATRIX OF CORRELATIONS OF ECONOMIC, SOCIAL, AND DEMOGRAPHIC MEASURES AND NATIONAL LEVELS OF OCCUPATIONAL INHERITANCE

($N = 13$)

Variables	2	3	4	5	Means	S.D.
1 Communications	.90	−.76	−.66	−.83	199.6	52.1
2 Energy consumption		−.75	−.68	−.74	50.2	9.2
3 Rural homes			.57	.82	49.2	11.1
4. GRR				.62	1.9	0.4
5 Occupational inheritance					0.764	0.09

[illegible] β weights = [illegible]

[25] See Table 3 for exact values of Q. When $N = 13$, product moment correlations of .476 and .634 reach the .05 and .01 levels of significance. When $N = 9$, correlations of .582 and .750 are required (see H. Walker and J. Lev, *Statistical Inference* [New York: Henry Holt, 1953], p. 470).

[26] In some correlation-regression studies it is possible to specify which variables in the model should be given causal priority. When this is the case, the variance linked between an independent variable and the dependent variable (the zero-order correlation squared) is removed, and the remaining unexplained variance is then linked to a second independent variable with a lower causal priority, etc. This method has been called "forced regression analysis" (see P. Cutright, "Inequality: A Cross National Analysis," *American Sociological Review*, XXXII [August, 1967], for an illustration). In the present case, however, we lack a theoretical rationale that would allow such use of the variables in our model, and the resulting selection of independent variables is based on the criteria that the variable must add explained variance, the correlation must be in the predicted direction, and the "unimportant" variable's relationship to the "important" variables must be considered. It seems impossible to avoid such a "qualitative" analysis if absurd judgments are to be avoided. H. M. Blalock, Jr., "Correlated Independent Variables: The Problem of Multicollinearity," *Social Forces*, XLII (December, 1963), 233–37, suggests that, when independent variables are highly intercorrelated, the researcher may have to tolerate a certain amount of ambiguity.

size is related to the national level of occupational inheritance, but we can eliminate this variable as an important predictor once we have information about the level of communications and the rural composition of the manual stratum.

The correlation of the percentage of sons from rural homes is positively correlated with inheritance (.82) and is negatively correlated with communications and energy consumption. The higher the level of communications, the lower the percentage from rural homes; and the higher the percentage from rural homes, the higher the occupational inheritance. The multiple correlation using communications and percentage from rural homes is .88, a modest improvement over the zero-order correlation of communications and inheritance. Communications and percentage from rural homes have β weights of — .490 and .448, respectively. Each variable contributes to an explanation of the variance, and, taken together, they account for 77 per cent of the variation in inheritance. We conclude that the level of communications *and* the rural composition of the manual stratum act powerfully, and in the expected direction, to set the level of occupational inheritance in this sample of nations.

Our conclusion, however, is only tentative, since one may ask whether the observed correlation of inheritance with communications is primarily a by-product of the correlation between the percentage from rural homes and communications. According to this view, the correlation of the percentage from rural homes is valid, while the other is spurious. The high level of inheritance in nations with large agricultural sectors comes simply from the fact that many rural sons stay on the farm, thus inflating the level of inheritance in those nations; inheritance is not greatly affected by their low communications scores. If this view is correct, then we should find that the mobility of non-farm sons is unrelated to the level of energy consumption, communications, and family size. A direct test is possible.

OCCUPATIONAL INHERITANCE OF NON-FARM SONS

The level of occupational inheritance for non-farm sons was obtained for nine nations in which the sons of agricultural workers could be separated from the sons of other manual workers.[37] We thereby remove the influence of rural inheritance and can see whether the correlations for energy consumption, communications, family size, and *urban* occupational inheritance are similar to the correlations previously reported for the total population. If these correlations do not remain significant, we would have to conclude that the hypothesis that occupational inheritance is a function of the size and mobility of the rural population (rather than a function of energy consumption, communications, and family size) would be sustained.

The correlations, however, support our original hypotheses. The level of inheritance and standard deviation of inheritance are lower for the non-farm population (see Tables 1 and 2), but the amount of variance in non-farm inheritance explained by our independent variables is still significant. For these nine nations, the higher the level of energy consumption and communications, the lower the non-farm occupational inheritance.

The GRR has the strongest correlation with non-farm inheritance (.74), and, given its — .68 correlation with communications, the addition of information on the level of communications is of little value in explaining variance in non-farm inheritance. This does not mean that our measure of family size is the only factor to be considered in explaining the variation in non-

[37] We include Great Britain because only 8 per cent of the sons could have come from rural homes, and, given the similarity of rural and urban-manual upward rates in highly developed nations, it is doubtful that inheritance for the non-farm population in Great Britain is much different from inheritance for the total population. We did not adjust the British estimate of non-farm inheritance. See Table 3 for differences in non-farm and total inheritance scores in the eight nations for which exact data were available.

farm inheritance, but one should acknowledge that the GRR is a superior predictor and must be accorded a "place at the table" when one "seats" his independent variables. Together, communications and the GRR explain 59 per cent of the variation, and they take β weights of $-.320$ and .516, respectively.

Also of interest is the fact that the correlation of percentage from rural homes with non-farm inheritance is only .58, and, given the correlations of $-.79$ between percentage from rural homes and communications for these nine nations, the idea that a large agricultural population lowers non-farm inheritance (because, perhaps, rural-to-urban migration should increase the mobility chances of non-farm-born sons) is rejected. (The correlation of percentage from rural homes and non-farm inheritance is .12, controlling for communications.)

Existing mobility data do not allow us to develop a measure of the composition of the non-farm manual stratum (for example, the proportion of sons who had skilled or unskilled fathers), although we suspect that such a measure would increase the amount of variance we could explain. An additional problem is that our measures of the independent variables apply to the total national population and not to the non-farm population alone. We conclude, nonetheless, that the hypothesis that the level of non-farm occupational inheritance will be related to the level of technology, to the degree to which social institutions facilitate and stimulate mobility, and to family size is now empirically demonstrated.

We have two additional questions to consider: (1) What other national characteristics may account for the remaining unexplained variance, and (2) what can an analysis of the likely sources of measurement error tell us about the unexplained variance and the errors of prediction for specific nations?

TABLE 2

MATRIX OF CORRELATIONS OF ECONOMIC, SOCIAL, AND DEMOGRAPHIC MEASURES AND NON FARM LEVELS OF OCCUPATIONAL INHERITANCE

($N = 9$)

Variables	2	3	4	Means	S.D.
1 Communications	.96	−.69	−.67	199.1	34.8
2 Energy consumption		−.67	−.66	51.9	10.5
3 GRR			.74	1.9	0.4
4 Urban occupational inheritance				0.708	0.07

$R_{4.13} = .77$ β weights $= -.320X_1$ and $.516X_3$.

OTHER INDEPENDENT VARIABLES

A test of the assumption that additional variables will increase the explained variance is guided by Fox and Miller's analysis[28] of upward and downward rates. In addition to the 1950 measures of GNP per capita and school enrolment (indicators that are similar in content to our energy consumption and communication meassures), they used McClelland's 1950 score on need for achievement, the percentage of the 1950 population in cities of 20,000 or more, and the "political instability" in the post–World War I period scored as a dummy variable. Will the addition of these variables increase the explained variance in inheritance?

Fox and Miller suggested that children in nations with high achievement stimuli would be more competitive, and mobility rates would be positively related to McClelland's scores. Unfortunately, they used

[28] See Fox and Miller, "Economic, Political and Social Determinants of Mobility," op. cit.

1950 achievement scores, and although they found the expected association, there is no logical reason to think that the content of a child's school books could affect his father's mobility. It is, however, reasonable that 1925 achievement levels could have an impact. Using the twelve nations studied by Fox and Miller (we omit Yugoslavia), we found that 1925 achievement scores add nothing to the explained variance in inheritance for the whole nation, regardless of whether one allows it to enter first or in competition with communications and percentage from rural homes. We reject the hypothesis that this measure of achievement is related to occupational inheritance.[29]

Using 1930 urbanization (percentage living in cities of 100,000 or more)[30] for the same twelve nations, we found a correlation of about —.70 with inheritance; but urbanization was correlated at .69 with communications and —.82 with percentage from rural homes, while these independent variables were correlated at over .80 with inheritance. Urbanization adds nothing to the previously explained variance. It fails to add explained variance even if we do not include percentage from rural homes. While it is clear that nations high on energy consumption and communications also tend to be high on urbanization, the correlation of occupational inheritance with various measures of urbanization is always weaker than is the correlation of energy consumption and communications with inheritance.[31]

A measure of the "representativeness" of national political structure that takes into account instability from 1928 to 1954[32]

[29] An alternative use of achievement motivation scores claims that the content of school books reflects the motivations in the minds of the older generation. Accordingly, the use of 1950 scores is legitimate. Achievement scores of 1950 have a correlation of .10 with inheritance, while 1925 achievement scores have a correlation of —.13 with inheritance. Also, 1925 and 1950 scores are unrelated (—.06), a fact that should be considered against the pattern of high intercorrelations between early and late measures of national economic, demographic, and social indicators.

If we accept Marsh's (*op. cit.*) argument that we should measure mobility corrected for structurally induced moves (i.e., pure mobility or what we call inheritance) to "get at" national differences in universalistic-achievement values, then we would expect that these achievement scores should have stronger correlations with our measure of inheritance than with measures of total mobility. There are, however, no significant differences in the correlations. Scores were taken from D. C. McClelland, *The Achieving Society* (Princeton, N.J.: D. Van Nostrand Co., 1961), pp. 461-62. The score for Italy in 1925 was estimated from a scattergram of 1925 against 1950 achievement scores and was estimated to be equal to the 1925 score for Japan.

[30] Miller used 1950 urbanization based on the percentage of the population in cities of 20,000 or more, although he would have preferred a measure using population in cities of 100,000 or more. Although national differences exist in the definition of residents of cities of 100,000 or more (see Gibbs and Martin, *op. cit.*, p. 675), we computed 1950 data for cities of 100,000 or more, noted the .93 correlation with 1950 data using 20,000 or more, and used the 100,000 measure. Our analysis of inheritance used 1930 urbanization (100,000 population) data.

[31] One could conceive of urbanization in terms like those we used for the percentage of rural sons, i.e., it is an indicator of the extent to which the urban population of the nation resides in large cities. If mobility is greater in the larger than the smaller cities, it might be useful. The data supporting this assumption are not strong. N. R. Ramsøy, "Changes in Rates and Forms of Mobility," in Smelser and Lipset (eds.), *op. cit.*, p. 223, finds only negligible differences in Norwegian mobility among the capital city, smaller cities, suburbs, and industrial villages; but the rates for mixed, farming, and fishing villages are lower than those for the first four types.

[32] A detailed description of this measure is given in P. Cutright, "Political Structure, Economic Development, and National Social Security Programs," *American Journal of Sociology*, LXX (March, 1965), 549-50. Most of the weight in the index comes from the characteristics of the nation's parliament and the type of chief executive. For example, for each year that the nation's lower or only chamber of the national parliament had minority party representation of at least 30 per cent (through competitive elections), the nation received two points. If the minority party had less than 20 per cent of the seats, the nation received

was correlated at — .73 with inheritance for all thirteen nations, but inclusion of this variable with percentage from rural homes and with the communications index adds nothing to the explained variance of inheritance. We note that our political measure is correlated at .78 with communications and — .62 with percentage from rural homes.[33] Unless the political measure is entered first, it is of little aid in predicting inheritance; and we lack a theoretical rationale that would justify placing it in a causal chain prior to our other independent variables. We reject the hypothesis that the degree of stability, or the representativeness of political structures, has an important independent impact on occupational inheritance.

MEASUREMENT ERROR, UNEXPLAINED VARIANCE, AND CULTURAL VALUES

We have explained the bulk of the variance in inheritance without the use of direct measures of universalistic-achievement values. Sociologists who are appalled by our lack of attention to this "independent variable" may assume that if such a measure were available it would be highly correlated with the independent variables for which we do have measures, or they might assume (and this would be, I think, more reasonable) that some part of the variation explained by our indicators might be attributed to variation in cultural values. Although our analysis of achievement motivation scores does not give much comfort to either of the above positions, one might apply a case-study analysis under the assumption that the direction and size of the errors of prediction (reported below in Table 3) would indicate that a particular nation has more or less occupational inheritance than it was "expected" to have, based on the information put into the regression equation. The analyst might then find some data that would indicate that an error for a given nation could be "explained" by his case material. For example, the higher-than-expected inheritance values in West Germany and Italy could be "explained" by case materials that report high levels of authoritarianism in German and Italian families.[34] One could then ascribe to the errors of prediction meanings that would support his hypothesis that family structure has an impact on mobility. This is an exceedingly hazardous venture, and before one overinterprets the errors of prediction he must consider that these errors may arise from sources that are not at all related to variations in family structure or to cultural values among nations.

Measurement errors may arise from un-

only one point. If there was no parliament, it received no points. If the chief executive was selected by a party or by parliament or was directly elected by the people under conditions indicating a free and competitive party system, the nation received an additional one and one-half points, while if it had a junta it received only one half point. No points were given if the nation was occupied by a foreign power during a given year. Several additional gradations in scoring the parliament and chief executive are outlined in Cutright, *ibid.* The total raw scores for Communist and non-Communist nations during 1928–54 were cumulated and correlated against inheritance scores.

[33] It is worth noting that these correlations are very similar to those reported for a larger sample (N = 77) of nations (see P. Cutright, "National Political Development," *American Sociological Review*, XXVIII [April, 1963], 259).

[34] See G. Elder, Jr., "Family Structure and Educational Attainment," *American Sociological Review*, XXX (February, 1965), 81–96; and G. Elder, Jr., "Role Relations, Sociocultural Environments, and Autocratic Family Ideology," *Sociometry*, XXVIII (June, 1965), 173–96. Elder documents a relation between the type of parent-child relationship (reported to the interviewer by the adult respondent) and the respondent's level of education. But the level of authoritarianism in societies seems also to vary with our communications index, energy consumption, percentage from rural homes, and family size. This indicates that parent-child relationships might be an important variable for further research, especially when the individual is the unit of analysis, but its utility in adding explained variance to national rates is at the same time dubious.

reliable and invalid measures of the independent or dependent variables. These errors, typically, will lower the explained variance.[35] Application of a linear statistical model to data that are, in fact, curvilinear will also reduce correlations.

The hypothesis that the data are curvilinear may be checked by examining the errors of prediction. A scattergram plotting actual and predicted values for inheritance does not indicate that a curvilinear analysis find "tipping points" near either extreme. This is true for both non-farm inheritance and total inheritance.

Table 3 shows the observed values of occupational inheritance for the total sample of sons in thirteen nations and the observed non-farm inheritance for nine nations. The nations are ordered by the level of total occupational inheritance. The observed inheritance value for all adults in Hungary was .904. The value predicted

TABLE 3*

OCCUPATIONAL INHERITANCE: TOTAL AND NON-FARM POPULATION

Nation	Total Population		Non-Farm Population	
	Observed Q	Error of Prediction	Observed Q	Error of Prediction
Hungary	.904	.062	.783	.008
Finland	.883	.047	NA	
Italy	.878	.033	.825	.057
Yugoslavia	.846	−.069	.722	−.067
West Germany	.777	.075	.762	.069
Japan	.768	−.026	NA	
France	.759	−.002	.668	.022
Sweden	.735	−.015	.681	−.005
Norway	.709	−.043	.698	−.001
Denmark	.689	−.036	NA	
United States	.685	.005	.621	−.049
Netherlands	.684	.015	NA	
Great Britain	.614	−.017	.614	−.032

* NA = not available. The non-farm estimate for Great Britain is the same as the national figure and may be slightly higher than the true non-farm value. Prediction equations for the total population (N = 13) used communications and percentage from rural homes, and the equation for the non-farm population (N = 9) used communications and the GRR.

would improve correlation. Further, a log transformation of Q-values (to compress the upper end of the distribution) does not result in a meaningful change in the zero-order correlation, multiple correlation, or β weights reported in Tables 1 and 2. One implication of this finding is that, for the nations studied, the pattern of decreasing inheritance with a declining agricultural sector, smaller family size, and increasing communications levels is linear; we do not from the regression equation using communications and percentage from rural homes was .842, with a resulting error of prediction of .062. The actual value of inheritance in Hungary was .062 higher than predicted. Positive errors of prediction indicate higher inheritance than predicted, while negative errors indicate lower inheritance than predicted. Before we apply a too literal interpretation to these errors, we must ask whether they are related to likely sources of measurement error.

There are errors and ambiguities in the measurement of both the dependent and independent variables. Consider the rela-

[35] See M. Ezekiel and K. Fox, *Methods of Correlation and Regression Analysis* (3d ed.; New York: John Wiley & Sons, 1959), pp. 312-14, for discussion.

tionship of the time of measurement of the dependent variable to the time the independent variables were measured. Energy consumption, for example, was measured in 1929, while the mobility samples were taken between 1949 and 1963. Elapsed time varies between twenty and thirty-four years; so, too, for the elapsed time using the communications index and the GRR. The percentage of sons from rural homes is adjusted to the date the sample was drawn in eight nations, but it is estimated from the 1930 male labor force for the other five nations.

The elapsed-time problem is compounded by the possibility that true comparability across nations may be lost because mobility is measured at different times. A systematic check on the direction of errors as related to the date of the sample measuring mobility can be made. We would expect that nations measured early in the time period would have higher inheritance than predicted and that those measured within the extreme dates would be unbiased, while those measured late would have lower inheritance than predicted. The mean net error of prediction of total inheritance for the four nations measured from 1949 to 1952 was .019 higher than predicted: the mean net error of the five nations measured between 1953 and 1955 was —.001; while the mean net error of the four nations measured after 1956 was —.016. The errors of prediction for non-farm inheritance show the same patterns: the five nations measured before 1956 have a mean net error of .012, and the four nations measured after 1956 have a mean net error of —.015. We conclude that nations measured soon after the end of World War II would probably have lower inheritance values if they were measured in, say, 1960, while those nations measured around 1960 would have higher inheritance values had they been measured around 1950. This interpretation is consistent with the correlation analysis reported above: we should expect the level of inheritance within nations to decline with increasing development.

Unfortunately, a systematic examination of other sources of measurement error is not possible, since many of the studies we have used were not specifically designed to measure occupational mobility, and even those that were, reported only scattered facts that could be used in looking for measurement bias. Even the ages of the people interviewed are not available for several nations. However, it is worthwhile to examine certain characteristics of the samples that are reported in some detail.[86]

Sample size, especially in the non-manual stratum, is critical for both Norway and Italy (there were only 147 and 209 sons, respectively, of non-manual fathers), and the reliability of national estimates based on these (or even larger) figures should be questioned, regardless of the adequacy of sampling procedures or total sample size. Although inheritance is probably less sensitive to stratum sample size than are upward or downward rates, we note that both Norway and Italy have sizable errors of prediction. A related problem is the unrepresentative nature of sample respondents *within* manual and non-manual strata. For example, if the sons of the urban manual workers in the sample tend to be at a higher level than is true for the nation as a whole (this is the case in Yugoslavia),[87] then sample inheritance will be lower than the true national figure.[88] In such a case the regression equation should yield a predicted inheritance value higher than the observed sample inheritance value, and the error of prediction would show, for example, Yugoslavia with lower-than-predicted

[86] I am aware that what follows is in part ex *post facto*.

[87] See Milic, *op. cit.*, pp. 117-19.

[88] Fox and Miller, "Occupational Stratification and Mobility: Intra-Country Variations," *op. cit.*, demonstrate that sons of higher-status urban manual workers are more likely than sons of lower-status urban manual workers to become non-manual workers. We have already noted that agricultural workers are less likely than urban manual workers to become urban non-manual workers, although the size of this difference is small in some developed nations.

inheritance. Sample inheritance in Yugoslavia *is* lower than predicted. This error will arise in cases where sample inheritance is lower than the true inheritance value. Similarly, if small villages are underrepresented, then sample inheritance will be lower than a national census would reveal. It seems very likely that if the large and carefully drawn Yugoslavian sample suffers from these problems, then several of the other studies must be similarly afflicted.

The largest error of prediction is found in West Germany.[39] Does this tell us that West Germany has lower universalistic-achievement values or a more rigid class structure than other nations, given its level of technology, communications, family size, and rural population? Although the sample we used to represent West Germany is large, it may suffer from biasing factors not present in other national samples. For example, less than half of the respondents in the German sample were men because, typically, women were often asked to report their husbands' jobs and *also* to report the occupations of their husbands' fathers. One must wonder whether ignorance or distortion of information may result in an artificially high rate of inheritance. Furthermore, some 20 per cent of the German sample was composed of refugees, and these persons experienced lower upward mobility than those of the indigenous population. Also, a higher proportion of the German sample than other national samples is composed of men under twenty or over sixty years of age, and these two groups have low mobility rates in comparison with the remaining age groups. Finally, three independent, but smaller, surveys of the West German population all have reported higher mobility than that reported by the study we used.[40] We are reluctant, in the face of this information, to argue that the West German error of prediction is much more than an error of measurement of the dependent variable or a matter of any other transitory peculiarities of the German case.

In Finland the sons reported their own occupations but were asked whether their fathers were members of the "working class," "white collar class," or were farmers. Inspection of the resulting table shows that many sons of farmers reported their fathers to be members of the "working class," but it is impossible to determine other errors of measurement resulting from the way the question about the father's occupation was worded. Finally, one may note that both males and females are included in the Hungarian and Yugoslavian samples, and the large number of unpaid female family workers in the economically active labor force must yield a mobility measure that is not strictly comparable with that of other nations.[41]

Measurement error also applies to the independent variables. We will omit detailed examination of this problem, since we believe that it is less severe than are the measurement problems related to the dependent variable, and estimates of the degree of error in our independent variables are available elsewhere.[42]

[39] See Janowitz, *op. cit.*

[40] See Lipset and Bendix, *op. cit.*, pp 19 20

[41] We checked sample representativeness against the census report on the proportion of the labor force in agriculture for the eight nations with farm sons reported separately The difference between the census and the sample report was no larger than ± 3 per cent.

[42] B. Russett *et al.*, *World Handbook of Political and Social Indicators* (New Haven, Conn : Yale University Press, 1964), discuss the amount of error in indicators such as the percentage of labor force in agriculture Russett notes (p 175) that "it is highly probable that the percentages given are comparable with a range of ± 10% for the advanced countries and ± 15% for the underdeveloped states." A developed nation reporting 40 per cent in the agricultural labor force may then be thought of as actually having between 36 and 44 per cent in agriculture. Applying either of these alternative values to the prediction equation will obviously change our predicted value for inheritance and, therefore, will change the error of prediction. We do not know whether the errors of measurement of the independent variables for a

We conclude, first, that the addition of independent variables which are themselves related to economic and social development will not significantly increase the explained variance, but improvements in the measurement of our independent, and especially the dependent, variables would lead to a larger proportion of explained variance. Second, the use of errors of prediction to measure universalistic-achievement mobility values among nations (or as indicators of "excess" rigidity or openness in the class structure) is invalid.

CONCLUSION

A discussion of various measures of intergenerational mobility led to the selection of Yule's Q as a measure that would remove the effects of structural shifts in the demand for different classes of workers between generations and would allow us to compare the level of occupational inheritance or pure mobility among thirteen nations.

We hypothesized that nations with high levels of technology, a prevalence of small families, a small agricultural labor force, and social and economic structures that stimulate and facilitate selection by talent would have low levels of inheritance. These hypotheses were supported by a correlation analysis. When we tested an alternative explanation of our findings (that our correlations were spurious because of the association of the size and mobility of the agricultural labor force with our independent and dependent variables), we found that the correlations remained significant with the level of inheritance in the non-farm population. High levels of development and the prevalence of smaller families tend to equalize the opportunities for upward mobility of rural *and* urban sons.

Further analysis included measures of achievement motivation, urbanization, and political stability and structures. None of these variables added to the previously explained variance in inheritance.

A discussion of measurement errors allowed us to conclude that some sizable portion of the unexplained variance would be eliminated if the nations were all measured at the same time, if data collection procedures were standardized, and if the sample estimates of mobility were valid measures of the actual national condition. Measurement error in the independent variables also contributes to the unexplained variance.

In spite of the measurement problems, the powerful correlations between measures commonly used to gauge fertility and economic and social development and our measure of inheritance lend strong empirical support to the theoretical statement by Davis. If one wants to think in terms of a measure of total mobility (percentage of sons not in their fathers' strata) not corrected for structural change, an analysis has found that this measure and our inheritance values for the total population ($N = 13$) correlate at — .96; therefore, the correlations of our independent variables with total mobility are nearly identical to those correlations with inheritance that are reported in this paper. The correction for structural change does not radically alter the way we would rank-order the nations. This finding also applies to measures of non-farm inheritance, where we found a correlation of — .86 between non-farm inheritance and non-farm total mobility.[43]

given nation are random or systematic. Also, it is likely that measurement error may be larger for the 1930 measures used here than for the 1950 data discussed by Russett. See United Nations, *Population Bulletin of the United Nations, op. cit.* (n. 24 above), for discussion of the reliability of GRR.

[43] The similarity in total mobility rates should not obscure real differences in the level of pure mobility, i.e., occupational inheritance. For example, 31 per cent of all the non-farm sons in the Swedish and British samples were mobile, but nearly one-half of the Swedes were mobile because of structural shifts, while none of the British men had this factor operating for them. The percentage

This indicates that the effect of structural change is rather steady for most of the nations in this sample, and our conclusions stating that occupational inheritance is largely a function of demographic, economic, and social factors can be expanded to a conclusion that variation in the level of total mobility is also related, in much the same manner, to these same independent variables. The conclusion of earlier scholars that "mobility" does not vary among industrialized nations should, therefore, be amended as follows: If nations differ in their levels of development, we can be fairly confident that their levels of occupational inheritance and total mobility will also vary. This conclusion applies to measures of intergenerational occupational inheritance and total mobility for the national population and for the non-farm population as well.

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of Swedes in the "pure" mobility type was 15.5 compared to the British figure of 31.1 per cent. The lower Q-value in Great Britain reflects this difference. It is obvious that with a non-farm sample size of 6,542 and 3,498 in the Swedish and British cases, respectively, the percentage difference in pure mobility is significant. The $-.86$ correlation between non-farm total mobility and non-farm inheritance values should not, therefore, be interpreted as evidence that either statistic will yield an identical rank order.

Communication, Creativity, and Problem-solving Ability of Middle- and Working-Class Families in Three Societies[1]

Murray A. Straus

ABSTRACT

Data on ability to solve a laboratory problem are reported for samples of middle- and working-class families in Bombay, India; Minneapolis, Minnesota; and San Juan, Puerto Rico. In all three samples, working-class family groups were less successful in solving the problem than middle-class families. In Bombay the differences were so great they could not be encompassed within the same measurement procedures. Tests of three factors which could account for the lower problem-solving ability of the working-class samples are also presented. A "differential motivation" theory was tested by means of an index of the effort expended in the task. The results show no social class difference. Tests of a "communication block" and a "cognitive style" theory revealed large social class differences in volume of intrafamily communication and in creativity. It is concluded that the differences in problem-solving ability, as well as restricted working-class communication and creativity (which appear partly to explain the differences in problem-solving ability) are similar in all three societies, despite vast differences in culture. However, the more urbanized and industrialized the society, the smaller the social class differences.

One of the most crucial phenomena for the analyst of social class is variation in family organization. Such data can help us to go beyond mere categorization of class differences to an understanding of at least one set of factors which establish and maintain the boundaries between social strata. This paper tests the assumption that one of these factors underlying many other social class differences is the ability of the family groups to deal with the kind of novel and problematic situations characteristic of a rapidly changing urban-industrial society.

A second assumption is that the social

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Finally, I wish to express appreciation to those whose comments and suggestions aided in the development of this research and in revision of the paper, particularly Dana H. Bramel, Reuben L. Hill, Harvey Farberman, George Levinger, Fred L. Strodtbeck, Guy E. Swanson, Ben Willerman, and Irving Tallman.

organization of working-class families represents a partly dysfunctional response to certain structural pressures, such as unemployment and overcrowding. The patterns of organization developed in response to these pressures are reasonable adaptations to the immediate pressures, but these same organizational patterns are also assumed to be responsible for some of the difficulties experienced by working-class families in adapting to social change.

The larger study from which this analysis is drawn was designed to test the latter assumption with a number of different family organization variables. This paper presents data on only one of these family organization variables—communication. The paper is primarily focused on an empirical test of the first assumption: that there are large social class differences in the ability of family groups to deal with novel problem situations. Consequently, the first hypothesis tested is that working-class families have a lower ability to solve a laboratory problem than middle-class families. It should be noted, however, that confirmation of this hypothesis provides evidence in favor of the assumptions on which it was based only to the extent that ability to cope with the laboratory problem reflects the ability of the family to deal with at least certain classes of natural setting problems.[2]

Assuming that the hypothesized differences in group problem-solving ability do in fact exist, what accounts for these differences? The issue is extremely complex, and undoubtedly many factors are at work, including individual differences in intellectual capacity. Without denying the existence of other factors, the present investigation was designed to test the hypothesis that one of the factors accounting for social class differences in family problem-solving ability is to be found in patterns of communication. This hypothesis is based on the assumption that group problem solving is impeded if members of the group lack the communicative skills to share items of information needed for the solution, or if *the organization of the group inhibits such communication.*[3]

[2] For a discussion of the validity of the measurements obtained by means of performance in this task see Murray A. Straus, "Methodology of a Laboratory Experimental Study of Families in Three Societies," *Yearbook of the International Sociological Associations* (in press); Murray A. Straus and Irving Tallman, "SIMFAM: A Technique for Observational Measurement and Experimental Study of Families" (mimeographed paper available on request); and Murray A. Straus, "The Influence of Sex of Child and Social Class on Instrumental and Expressive Family Roles in a Laboratory Setting," *Sociology and Social Research*, LII (October, 1967), 7–21. Two 16-mm. sound films are also available. The first is a verbatim film record of a family going through the experiment. The "Family Crisis Periods" is a film of a television broadcast explaining the research and including excerpts from the first film

[3] Robert O. Blood and Donald M Wolfe, *Husbands and Wives* (New York: Free Press, 1960); Ray L. Birdwhistell, "An Approach to Communication," *Family Process*, I (September, 1962), 194–201; D Cartwright and A. Zander (eds), *Group Dynamics: Research and Theory* (Evanston, Ill.: Row, Peterson, 1960); Barry E. Collins and Harold Guetzkow, *A Social Psychology of Group Processes for Decision-making* (New York: John Wiley & Sons, 1964); Nathan B Epstein and William A Westley, "Patterns of Intra-familial Communication," *Psychiatric Research Reports*, Vol XI (December, 1959); Bernard Farber and William C Jenne, "Family Organization and Parent-Child Communication: Parents and Siblings of a Retarded Child," *Monographs of the Society for Research in Child Development*, Vol. XXVIII, Serial No 91 (1963); A. Paul Hare, Edgar F. Borgatta, and Robert F. Bales, *Small Groups: Studies in Social Interaction* (New York: Alfred A Knopf, Inc, 1955); Reuben Hill, J Mayone Stycos, and Kurt Back, *The Family and Population Control* (Chapel Hill: University of North Carolina Press, 1959), G. Karlsson, *Adaptability and Communication in Marriage: A Swedish Prediction Study of Marital Satisfaction* (Uppsala: Almqvist and Wiksells, 1951); Basil Bernstein, "Language and Social Class," *British Journal of Sociology*, II (1960), 271–76; Basil Bernstein, "Social Class and Linguistic Development. A Theory of Social Learning," in A. H Halsey (ed), *Education, Economy and Society* (New York: Free Press, 1961); E P. Hollander, *Leaders, Groups and Influence* (New York Oxford University Press, 1964); Mirra Komarovsky, *Blue-Collar Marriage* (New York Random House, 1964); Lee Rainwater, *Family Design: Marital Sexuality, Family Size, and Contraception*

After examining the communicative patterns needed for effective group action, the paper next considers the content to be communicated. Specifically, it is assumed that the solution of novel problems demands a flow of ideas to be tried as possible solutions—a variable which will be termed "creativity" in this paper. Furthermore, because of their poorer education and less varied life experiences, it is assumed that working-class persons have had less opportunity to develop the mental flexibility needed for this type of creativity. Consequently, a third hypothesis tested in this research predicted lower creativity scores for the working-class sample.

A final major assumption to be examined in this paper is Inkeles' "Industrial Man" theory which holds that, irrespective of culture, urban-industrial societies pose a similar set of adaptive problems for their members and provide a similar set of resources for meeting these problems. Consequently, despite differences due to the unique features of each culture, the structural pressures impinging on the working class (such as lack of privacy, and insufficient resources to make planning a meaningful act) result in a similar set of social class differences in all urban-industrial societies.[4] To test this hypothesis, the research was replicated in Bombay, India; Minneapolis, Minnesota; and San Juan, Puerto Rico. These three societies were chosen in part on the basis of prior familiarity and convenience but primarily because the extreme cultural contrasts which they present make possible a stringent test of this hypothesis.

SAMPLE AND METHOD

Sample.—To be included in the working-class, a child had to have a father engaged in manual work.[5] In Minneapolis, 64 per cent of the eligible families who were asked to participate did so. In San Juan 88 per cent co-operation was secured, and in Bombay the figure was 93 per cent.[6] The

(Chicago, Aldine Publishing Co., 1965), Leonard Schatzman and Anselm Strauss, "Social Class and Modes of Communication," *American Journal of Sociology*, LX (January, 1955), 329-38, E. H. Schein, "Interpersonal Communication, Group Solidarity, and Social Influence," *Sociometry*, XXIII (1960), 148-61, R. C. Ziller, "Communication Restraints, Group Flexibility, and Group Confidence," *Journal of Applied Psychology*, XLII (1958), 346-52.

[4] See Alex Inkeles, "Industrial Man: The Relation of Status to Experience, Perception and Value," *American Journal of Sociology*, LXVI (July, 1960), 1-31.

[5] The number of other children in the family was not used as a selection criterion, nor was the legal status of the union. It should be noted that the requirement of a natural child of at least twelve years of age undoubtedly produced an atypical working-class sample. This is because of the instability characteristic of slum families everywhere. See Straus, *op. cit.*, for further details on the sampling procedures.

[6] The unusually high rate of participation in the Bombay experiment is probably due to a number of factors. First, the research was conducted at a more leisurely and careful pace, since it was my main responsibility for an entire academic year. Second, the head research assistant on the project, who had the responsibility of contacting all the families, was a person of unusual ability in establishing rapport with families of all social levels. Third, I was aided by the tradition of hospitality which is so marked in many Eastern cultures. The people of India, even more than those of European cultures, want to make a good impression on foreigners and to assist them in the task which brought them to their country.

Even the Minneapolis co-operation rate, although lower than hoped for, represents a substantial success because of the difficulty which is assumed to be present in getting a family group to come to a laboratory for research. The payment of $10 or Rs. 10 undoubtedly contributed to this success, especially for the working-class families. Perhaps also important was the use of the child as the unit for sample selection, since many parents will take part in activities which they would otherwise avoid if the activity is concerned with or for the welfare of their children. Finally, the personal calls for appointments probably played a part. The importance of personal calls is further suggested by the fact that the lowest rate of participation occurred in the city where telephone calls rather than personal visits were used to make the initial appointment, and the families were left to come to the laboratory on their own. In San Juan and Bombay, on the other hand, an assistant called for and brought each family to the laboratory.

sample sizes are Bombay 64, Minneapolis 64, and San Juan 45.

The study was conducted in a university small-groups laboratory in Minneapolis, and in a room of the Puerto Rico Vocational Rehabilitation Center in San Juan. In Bombay rooms in a neighborhood school and in a municipal recreation center were used. Except for the light operator, all

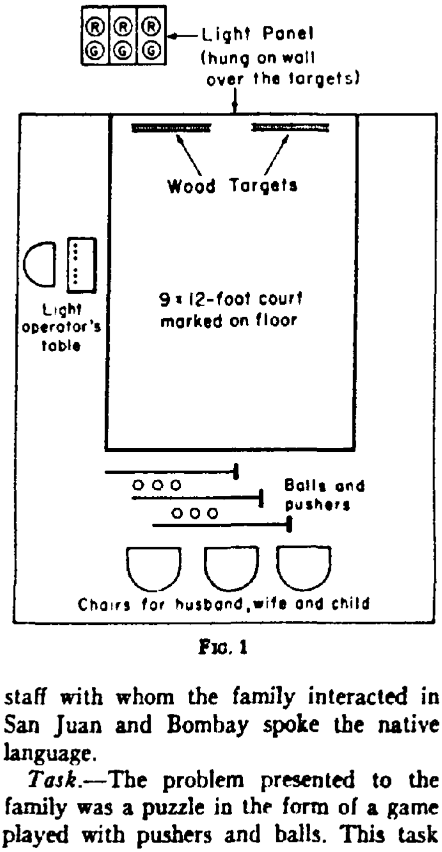


FIG. 1

staff with whom the family interacted in San Juan and Bombay spoke the native language.

Task.—The problem presented to the family was a puzzle in the form of a game played with pushers and balls. This task is a greatly simplified version of procedures first developed by Swanson and later modified by Hamblin.[7] The choice of this task was is part based on the assumption that the lower-class persons "do not verbalize well in response to words alone,"[8] or, as Miller and Swanson put it, the lower-class person tends to think and learn in a physical or motoric fashion. "Such people can think through a problem only if they can work on it with their hands. Unless they can manipulate objects physically they cannot perform adequately."[9] It was hoped that a task which involved physical manipulation of objects would allow for such motoric thinking.

It is difficult to describe adequately this task and the associated observational and scoring procedures within the space limitations of this article. Consequently, a methodological paper has been prepared for those needing such information.[10] However, it is hoped that the partial description which follows will be sufficient for purposes of understanding the findings.

The game was played on a court about 9 × 12 feet marked on the floor, with two target boards at the front, as shown in Figure 1. Also at the front of the room were three pairs of red and green lights. There was one pair of lights for each member of the family, and a blackboard to post scores after each period of play. Each family was told that the problem was to figure out how to play the game. The instructions given were ambiguous and designed to emphasize speed in performance and the need to play as a team. There were eight three-minute play periods The family's task was to infer the rules of the game with the aid of green lights flashed for correct, and red lights for incorrect, moves and to use this

[7] Robert L. Hamblin, "Group Integration during a Crisis," *Human Relations*, XI (1958), 57-76; Robert L. Hamblin, "Leadership and Crisis," *Sociometry*, XXI (December, 1958), 322-35; and Guy E. Swanson, "A Preliminary Laboratory Study of the Acting Crowd," *American Sociological Review*, XVIII (October, 1953), 522-33.

[8] See Frank Riessman, *The Culturally Deprived Child* (New York: Harper & Row, 1962), especially p 77.

[9] Daniel R. Miller and Guy E. Swanson, *Inner Conflict and Defense* (New York: Holt, Rinehart & Winston, 1960). See also J. McV Hunt, *Intelligence and Experience* (New York: Ronald Press, 1961), and papers on preschool enrichment programs in the *Merrill Palmer Quarterly*, Vol. X, No. 3 (July, 1964), all of which deal with this issue.

[10] Straus and Tallman, *op. cit.*

information to exceed the average of "other families who have played this game."

Reaction to the task.—The middle-class families in Minneapolis and San Juan almost immediately become engrossed in the game and appeared to enjoy the experience from the start. There seemed to be a considerable feeling of accomplishment in solving the experimental problem (figuring out the rules of the game from the light signals). In fact, a number of families wanted to continue after the experiment was over, and others suggested that the game be marketed commercially.

However, the first working-class family tested seemed initially to be anxious and frightened by the laboratory setting, although once the game started they too became absorbed in it. To reduce this initial anxiety, the following steps were subsequently taken: the staff wore sports clothes, the subjects were met at the building entrance, coffee or soft drinks were served prior to the experiment, the instructions were simplified, and what can be called the "bumbling experimenter role" was played. This involved getting slightly tangled in the tape used to mark off the playing court and asking the subjects to help put down the tape. These maneuvers appeared successful in reducing the social distance between experimenter and families and in making them feel more at ease. Once the game started, almost all families in all groups appeared to enjoy the game and at the same time to have become involved in the objective of learning the rules and maximizing their scores.

In Bombay, however, difficulties of another and more serious nature occurred. The task as just described proved too strange and difficult for the families in the pretest. To have kept to the original rules would have meant that the problem was insoluble for almost all families. It was therefore necessary to simplify the problem by eliminating certain rules. The simplified task was within the capabilities of the middle-class families. On the other hand, even these simplifications were not sufficient and additional simplification was necessary to put the problem within the grasp of the Bombay working-class families.

It should be clear then that in Bombay there were such vast differences between social classes in their ability to solve this task that no comparison of mean scores is needed to support the problem-solving ability hypothesis within that society. Nevertheless, we will present the problem-solving ability scores for Bombay because, as subsequent sections will try to show, these scores are useful for within-class analysis.

PROBLEM-SOLVING ABILITY SCORES

The problem-solving ability score is based on the lights used to indicate correct and incorrect actions to the subjects. Green lights were used to indicate a correct action, and red lights indicated violation of some rule of the game. Electric counters wired to each signal light, therefore, recorded the number of successes and errors. The data reported here on the problem-solving ratio (Fig. 2) are the proportion that the green lights are of all lights flashed during each trial.

Figure 2 presents the problem-solving ratio for each of the four trials. As previously noted, the class differences in Bombay were so large they could not be encompassed within the same measurement instrument. Nevertheless, scores for Bombay are presented here to show that the strategy of abandoning "phenomenal identity" in the task, in order to maintain "conceptual equivalence," appears to have been successful, at least to the extent that roughly similar learning curves are shown for both social class groups in all three societies.[11]

The importance of subjecting the families to a task which was at a roughly equivalent level of difficulty *relative to*

[11] See the discussion in Henry W. Riecken *et al.*, "Narrowing the Gap between Field Studies and Laboratory Experiment in Social Psychology: A Statement of the Summer Seminar," *Social Science Research Council Items*, VIII (December 1954) 37–42.

their ability arises because the problem-solving ability score is only one of a large number of variables measured in this study. Among these other variables are the communication and creativity scores (presented later in this paper) as well as measures of intrafamily power and supportive interaction described in other papers. All of these scores would have been rendered non-comparable if one sample had been presented with the frustration of a task which was completely beyond their ability, or another sample with a task which was ridiculously easy. In short, by maintaining a roughly constant level of difficulty, relative to their ability, it is believed that a *psychologically equivalent* task, even though not a *phenomenally identical* task, was presented and that this made possible comparison of the social class groups in respect to the family interaction variables which form the larger framework of this study.

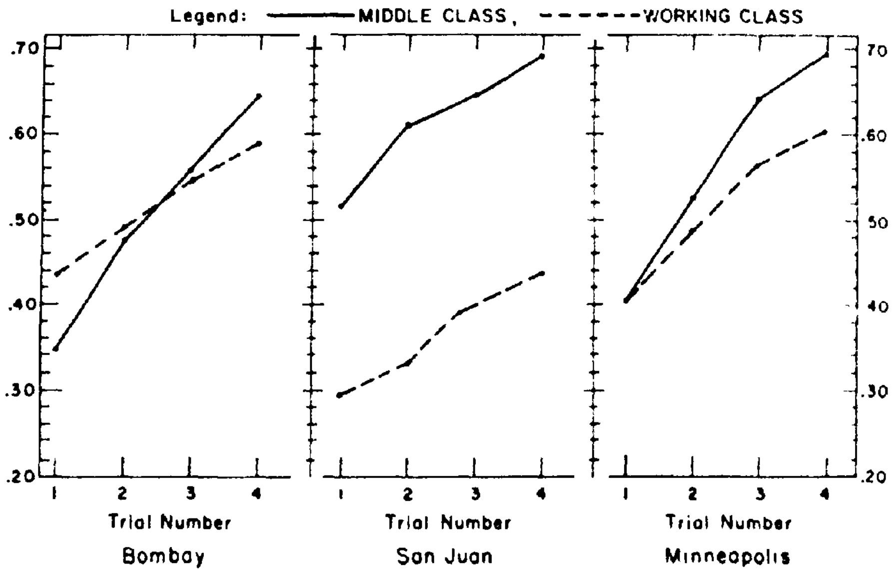


FIG. 2.—Mean problem-solving ratios

Turning now to the problem-solving scores of the San Juan families, it is clear from the wide band separating the middle-class and the working-class family curves in Figure 2 that there are extremely large differences between social classes in family problem-solving ability in that society. Although a statistical test is hardly necessary to establish confidence in differences this large and this consistent, the mean problem-solving ratio scores for all four trials are a convenient summary statistic for purposes of comparison. The middle-class families in San Juan had a mean of 63.0 compared to 36 8 for the working-class families ($F = 20.2$, $p < .01$).[12]

[12] The F-ratios for Bombay and Minneapolis reported in his paper are all based on 1 and 16 degrees of freedom, and for San Juan on 1 and 12 degrees of freedom In the case of San Juan, the error term used was the within-cells variance of a $2 \times 2 \times 2$ design. In the case of Bombay and Minneapolis, the error term was the variance obtained by pooling the six four-factor interactions and the five-factor interaction in a $2 \times 2 \times 2 \times 2 \times 4$ design. The choice of the pooled variance as the error term was based on the following considerations: (1) The alternative of using the five-factor interaction was tried and found to be un-

For the Minneapolis sample, however, the parallel comparison produced a mean of 57.2 for the middle-class families and 50.5 for the working-class families. This difference is consistent with the hypothesis, but it is not statistically significant ($F = 3.36$, $p < .10$). This is because this measure includes the first two trials, where class differences in Minneapolis were non-existent or small. A test of the hypothesis based on the fourth trial does reveal a statistically significant difference ($F = 4.61$, $p < .05$). Thus, the Minneapolis working-class families were equally able to deal with the basic features of the problem *in the first two trials*, but they were less able than the middle-class families to discover the last details and secure a nearly perfect score. In fact, among the sixteen working-class control group families who continued with the task as described in this paper for an additional four trials, there were two who, even after eight trials, obtained scores of under 50, indicating more errors than successes, and an additional two who had scores of under 70 per cent. By contrast, none of the sixteen middle-class control group families had a score under 70 during the eighth trial.

stable in the sense that certain differences between groups which were quite small occasionally turned out to be significant, whereas in other instances large and theoretically meaningful differences were found by this criteria to be not significant. The pooled variance, however, consistently produced significant F's where the differences were large, and non-significant F's where the differences were small. (2) Several of the analyses were recomputed by collapsing the fifth factor. This yielded a $2 \times 2 \times 2 \times 2$ design with four observations per cell. The F-ratios obtained by using the within-cells variance in this design were almost exactly comparable to those obtained by means of the pooled variance error terms, but frequently differed from those obtained using the five-factor interaction as the error term. (3) No theoretical predictions were made for the four-factor and five-factor interactions. (4) In view of the above, and the computational efficiency of the five-factor analysis of variance, it was decided to use the pooled variance as the error term throughout this study.

Although social class differences found for the Minneapolis families are not as dramatic as those in Bombay or San Juan, it is believed that the hypothesis of relatively low family group problem-solving ability was confirmed for this sample also. This conclusion is based in part on the statistical data and in part on the judgment that the task was not sufficiently difficult to reveal the class differences which actually exist in the Minneapolis sample. In retrospect, therefore, it would have been preferable to have used a more difficult task for the Minneapolis sample than for the San Juan sample, rather than the identical task. However, at that stage of the research, it was still believed that an identical task could be used in all three societies. Had the necessity of making the modifications which were subsequently made for Bombay been realized at the time, we would not have adhered so rigidly to the principle of phenomenal identity for the San Juan and Minneapolis phases of the study.

So far we have established a between-class difference in problem solving for all three societies. The balance of this paper investigates certain within-class factors which could underlie the inferior problem-solving ability of the working-class families. Among the many possible explanations, only the following will be examined: (1) lack of motivation on the part of the working-class families resulting in their not striving to solve the problem, (2) greater anxiety over having to perform in public and the resulting constriction of performance, (3) inability to maintain lines of communication needed for a rapid solution to the problem, and (4) ideational poverty.

DIFFERENTIAL MOTIVATION AND ANXIETY

The first two of the above listed explanations, if true, would preclude further analysis of the data, since they essentially challenge the validity of the data. Consequently, it is important to examine them

before proceeding. Fortunately, in respect to the "differential motivation to participate" explanation, two types of data are available. The first comes from over-all observation of the families as they attempted to solve the experimental task. Although individual families varied in respect to the intensity of their participation and striving, at no point was it possible to gather the impression that involvement in the task was any more or less prevalent among the working-class families. In fact, it was often painful to watch the efforts of the working-class families, since their involvement was so great and the effort expended usually disproportionate to the success achieved.

Of course, such impressions are subject to unconscious bias in favor of the methodological soundness of the experiment. Consequently, as one means of providing more objective data, an "activity level" score was obtained for each family. This score, which is the number of times a ball was pushed during each trial, provided at least one objective measure of task involvement. The results show a high level of activity for both the middle- and the working-class families, with no significant difference between them.[13]

A second methodological artifact which could account for the class differences is more difficult to deal with, since objective evidence comparable to the activity score is not available. This is the argument that the experimental situation was more strange and anxiety producing for the working-class families than it was for middle-class families, since the latter are accustomed to interacting with professional persons, whereas the former tend to fear them because of a generalization from their dealings with the police and other government officials.[14] It has already been noted that such a difference in situation anxiety was present before the game started. However, it has also been pointed out that, because of the engrossing nature of the task, once the family began to try to solve the puzzle, class differences in at least the external manifestations were not discernible. Moreover, the anxiety argument also runs the other way, since the middle-class families might have been more concerned over the adequacy of their performance in an academic situation. Unfortunately, there is no really objective evidence which could be used to support or refute either argument. Consequently, the possibility that differential anxiety either enhanced or reduced the "true" class difference must be kept in mind.

COMMUNICATION AND GROUP PROBLEM SOLVING

An alternative to the "differential motivation" and the "differential anxiety" explanations of the social class differences in problem-solving ability is what may be called the "communication block" explanation or hypothesis. This hypothesis arose from observing that one of the most striking class differences was a markedly lower amount of communication among members of working-class families. Informal observation of the working-class families' attempts to solve the problem further suggested that these differences in amount of communication were a major factor accounting for the poor performance of the working-class families. The solution of the experimental problem is relatively simple, but it also depends on fitting several elements together and perhaps also on break-

[13] *The mean activity scores were: Bombay, middle class 168, working class 145 ($F = 1.56$, n.s.); Minneapolis, middle class 155, working class 193 [illegible], but note that this is in the [illegible] predicted on the [illegible]); and [illegible]*

[14] *It should be noted, however, that even if we do ascribe the poor performance of the working-class families to anxiety in a "middle-class biased" situation, this can be considered a finding rather than entirely a methodological artifact. This is because a modern industrial society presents many such situations, and adequate performance in situations of this type is needed by working-class families if they are to adapt to the modern industrial [illegible].*

ing perceptual sets concerning the correct mode of play. For example, one member of the family may discover that the ball must hit one of the boards rather than, as most people initially guess, roll between them. Another member of the family may discover that the color of the ball must match that of the pusher. In the middle-class families, such discoveries tended to be immediately announced. Each member of the family then had the central elements of the solution available to him. But in the working-class families, such communications were rare. Instead there was frequently either an almost complete autonomy or a tendency to rely on inefficient non-verbal communication, that is, watching the others and attempting to imitate them.

An extreme case was San Juan family number 34. The wife had figured out all the rules by the end of the second trial; but she told no one. The husband observed that his wife was getting almost entirely green lights (indicative of successful play) and tried to imitate her, but unsuccessfully. This family played all eight three-minute trials without, *as a group*, achieving the solution which takes most middle-class families only one trial. Even more extreme instances occurred in Bombay. For example, in one family, the son had determined the rules of the game but the parents had not. During all of one trial and half of another trial, the son obtained almost all green lights and the parents almost all red lights, and the father from time to time mentioned various incorrect modes of play. The son said nothing during this time and finally started playing the game incorrectly despite the red lights he received from then on. Similar blocks in communication were observed between working-class husbands and wives. In short, the working-class families appeared not to have shared enough information to achieve a rapid solution to the problem.

A *post hoc* interpretation of this type needs to be tested empirically. A conclusive test requires a fresh experiment in which communication is experimentally controlled.[15] In the absence of such an experiment, the cross-sectional data of the present study can provide at least a partial test of this interpretation. For this purpose, a rough measure of the amount of communication between family members was obtained by totaling all the verbal and non-verbal interactions between family members.[16]

TABLE 1

SOCIAL CLASS DIFFERENCES IN FAMILY COMMUNICATION

Sample	Social Class	Mean Communication Score	F	$p \leq$
Bombay	Middle Working	129 98	5.81	.05
Minneapolis	Middle Working	131 67	23.38	.01
San Juan	Middle Working	173 134	11.92	.01

It is evident from the data in Table 1 that in all three societies the working-class

[15] An experimental test of this theory is now being undertaken by Irving Tallman. It is briefly described in Straus and Tallman, op. cit., pp. 23–25.

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[14] These interactions were recorded to obtain measures of intrafamily power and support as described in Straus and Tallman, *op. cit.*

families had a markedly lower volume of intrafamily communication. In fact, in San Juan, the working-class sample averaged less than half the number of communications which characterized the middle-class sample. Moreover, since the measure used in this study includes non-verbal communication, it greatly understates the actual difference in verbal communication.

Although these social class differences in communication indirectly support the communication block hypothesis, more direct support for the hypothesis would be provided if the communication scores were found to be positively correlated with problem-solving ability. The coefficients are .36 for San Juan, .15 for Minneapolis, and .27 and .43 for Bombay.[17] Thus, despite the plausibility of the communication block theory, these results suggest that only in Bombay and San Juan can much of the variation in problem-solving ability be attributed to lack of intrafamily communication.

As a final check on the communication block theory, the partial correlation between social class and problem-solving ability with communication held constant was computed for Minneapolis and San Juan. If differences in communication underlie the class difference in problem-solving ability, then we would expect that controlling for communication would lower the correlation between social class and group problem-solving ability. The partial correlation analysis did reveal some reduction in the association between social class and the problem-solving score. For Minneapolis, holding constant communication reduced the correlation of social class with problem solving from .24 to .20—a reduction of 17 per cent in the size of the correlation. For San Juan, the partial correlation of social class with problem solving, holding constant communication, is .44 compared to .55 for the two-factor correlation—a reduction of 20 per cent. Thus, the present data provide at least modest evidence in favor of the communication block theory. However, as previously noted, even though the theory is confirmed, communication as measured in this study accounts for only a small part of the social class difference in family group problem solving.

Restricted communication as environmental adaptation.—Although the data and interpretations just presented suggest that the restricted intrafamily communication patterns of the working-class families are dysfunctional for solving the type of problem presented in this research, it does not follow that such a minimal communication pattern is generally dysfunctional for families occupying positions at the low end of the socioeconomic hierarchy. In fact, the minimal communication pattern might well represent an appropriate adaptation to their actual life circumstances. For many of these families, the objective fact is that there are so few alternatives actually available to them that no amount of communication or joint problem-solving effort is likely to effect a significant improvement in their lives. Moreover, the volume of communication found among the middle-class families could well prove intolerable for families crowded six or more people to a room, such as the Bombay working-class families. In such circumstances, the low frequency and restricted channels of communication may constitute part of a "norm of civil inattention," which enables at least a modicum of individuality and separate identity to be maintained.[18]

[17] The first of these correlations is for the working-class part of the sample and the second for the middle-class part. Two correlations were necessary because, as previously explained, it was necessary to use an easier problem for the working-class group in Bombay.

[18] See in this connection, Frank Riessman, "Low-Income Culture The Strengths of the Poor," *Journal of Marriage and the Family*, XXVI (November, 1964), 417 21. On the norm of civil inattention, see Erving Goffman, *Behavior in Public Places* (New York· Free Press, 1963), pp 83-88; and Edward Gross and Gregory P. Stone, "Embarrassment and the Analysis of Role Requirements," *American Journal of Sociology*, LXX (July, 1964), 1-15.

CREATIVITY

Having accounted for only a relatively small part of the social class difference in problem-solving ability in terms of class differences in communication, I shall now try my luck with a cognitive theory. Among the many theoretically relevant variables which need investigation in this context are originality of thought and the ability to break perceptual sets, that is, the cluster of behaviors generally described under the heading of creativity.

Measurement of creativity.—The data for scoring creativity in this study were from a verbatim listing of the suggestions for ways of playing the game offered by each family member, irrespective of either the practicality of the idea or whether it was actually tried out.[19] Some families were almost completely perseverative in their actions. During the goal-blocking trials, they never varied from the modes of play developed in the first four trials. The social interaction aspect of creativity was clearly observed in a few families in which one member suggested an innovation in mode of play and was immediately brought back into line by comments such as, "That's not the way this sort of game is played." At the other extreme were the almost completely uninhibited families who tried everything they thought of, for example, pushing the ball from between the legs while facing away from the target and using various alternations of colors and players.

The validity of using innovations in game playing as a measure of creativity is, of course, not known. However, (1) the behaviors scored by this technique are congruent with the main conceptualizations of creativity.[20] (2) The measure has proved fruitful in the analysis of a different set of issues.[21] (3) The behaviors used to index creativity in this study have the advantage of being based on a motor performance rather than a purely verbal performance and should, therefore, be more suited to tapping the creativity of working-class persons.[22]

Creativity scores.—In all three societies, the data in Table 2 indicate that the middle-class families exhibited greater creativity (i.e., a larger number and range of ideas for solving the problem) than did the working-class families.[23]

[19] A verbal statement of the innovation was *not* necessary for it to be scored for creativity. A more complete description together with a manual for this technique of creativity scoring is given in Straus and Tallman, *op. cit.* I would like to express my appreciation to Fraine E. Whitney for development of the original version of the creativity scoring manual.

[20] See the papers in H. H. Anderson, *Creativity and Its Cultivation* (New York: Harper & Row, 1959).

[21] See Jacqueline H. Straus and Murray A. Straus, "Family Roles and Sex Differences in Creativity of Children in Bombay and Minneapolis," *Journal of Marriage and the Family*, Vol. XXX (February, 1968).

[22] Even if one assumes that the test is nonetheless biased in favor of the middle class, this assumption merely changes the interpretation of the findings rather than invalidating them. This is because most accounts of working-class life leave the reader impressed with the extent to which upward social mobility is a goal of the slum dweller. In relation to Latin America, see Carolina Maria de Jesus, *Child of the Dark* (New York: E. P. Dutton & Co., 1962); Oscar Lewis, *Five Families* (New York: Basic Books, 1959), and Oscar Lewis, *The Children of Sanchez* (New York: Basic Books, 1961). The slum dweller may not perceive the correct channels or efficient means for such mobility, but there is little doubt that most wish to leave their present status. This fact makes the "class-biased" test argument take on a different meaning, for it is precisely these middle-class tasks which the working-class person must master to achieve his aspirations. Therefore, the measure of creativity used in this experiment, if it is valid for the middle class, is also an important pattern of behavior for the mobility goals of the majority of the working-class families. See also n. 14 above.

[23] It must again be emphasized that one cannot compare the Bombay, Minneapolis, and San Juan grand means and conclude from data of this type that families in San Juan are less creative in dealing with the experimental problem than are families in Bombay or Minneapolis. This is because, as was previously noted, the task was modified to suit local conditions in each society. Moreover, even if the task had remainded identical, descriptive comparisons such as this are still likely to be

Since the data just presented show important social class differences in creativity, it is appropriate to investigate the extent to which these differences could underlie the social class differences in problem-solving ability. The correlation between creativity and problem-solving ability was therefore computed for each sample. The resulting coefficients are .30 for the San Juan sample, .24 for Minneapolis, and .67 and .25 for the Bombay working-class and middle-class samples.[24]

Partial correlation analysis was used to determine the extent to which social class differences in problem-solving ability can be accounted for by differences in creativity. Holding constant creativity produced a small reduction in the size of the correlation between social class and problem solving (from .24 to .20 for Minneapolis and from .55 to .49 for San Juan). Thus, the variable measured under the heading "creativity" does seem to be one of the factors which underlie social class differences in the problem-solving ability of families in both Minneapolis and San Juan.

TABLE 2

SOCIAL CLASS DIFFERENCES IN FAMILY CREATIVITY

Sample	Social Class	Mean Creativity Score	F	$p \leq$
Bombay........	Middle Working	24 4 20 5	5.13	05
Minneapolis ..	Middle Working	16 3 11 5	6 18	.05
San Juan	Middle Working	24 4 21 3	7.73	.01

SUMMARY AND CONCLUSIONS

Families in Bombay, India; Minneapolis, Minnesota; and San Juan, Puerto Rico, were studied to investigate social class differences in family group problem-solving ability. A gamelike task was used, rather than a verbal problem, because such a task enables working-class persons to make use of "motoric" thinking. Despite the use of a task which should minimize the educational advantage of the middle class, the working-class families in each of the three societies revealed a markedly poorer ability to solve the problem than was the case with the middle-class families. In fact, in Bombay the differences were so great that the problem-solving ability of the working class could not be measured with the same task as was used for the middle class, since the task was completely beyond the ability of the working-class families.

Three theories concerning the causes of the social class differences in group problem-solving ability were tested. The first of

invalid because different observers were used in each society and they recorded and scored the suggestions made in the local language. Consequently, although there was a high degree of agreement between observers *within* each society, the *numerical* comparability of the scores between societies is unknown. Nevertheless, as has been argued in the methodological paper on this research, such data can have internal validity within a society and therefore can legitimately be used to test the comparability of relationships among variables cross-culturally. It is the latter use which is the objective of the present study. See the discussion of "Measurement and Measurement of Association in Cross-National Research," in Straus, *op cit.* (n. 2 above).

[24] See n. 17 above.

these, a "differential motivation" theory, was tested by means of an activity-level score which is believed to reflect the intensity of involvement in the experimental task. This test revealed no important class difference in involvement and hence was rejected.

Second, a "communication block" theory was tested. In all three societies, the working-class families had substantially less communication with each other than was the case with the middle-class families. It is believed that this lack of communication interfered with the pooling of information and hence accounts for part of the working-class families' difficulty in solving the problem. This interpretation was further supported by the results of a correlation analysis which showed that communication is correlated with problem-solving ability and that the social class difference in problem solving is reduced when communication is held constant.[25]

Third, a cognitive theory was tested using a measure of ideational fluency and flexibility believed to reflect creativity. This also revealed large differences in favor of the middle class in all three societies. However, less of the variation in problem-solving ability could be attributed to variation in creativity than to variation in communication. Since the problem used for this research is a group task, the greater importance of communication is not surprising.

In conclusion, to the extent that performance on this laboratory problem is indicative of performance in solving novel problems in the natural setting, the findings suggest that deficiencies in communication and also, but to a lesser extent, creativity are among the factors which underlie the lower problem-solving ability of working-class families. However, many other factors must also be operative, since neither communication nor creativity accounted for a very large proportion of the variation in problem-solving ability.

One of the most important conclusions to emerge from the present study concerns the cross-cultural comparability of urban social class differences. Despite the tremendous variation in the culture of the three societies from which the samples were drawn, a considerable concordance was found in the way middle-class families are differentiated from working-class families. Specifically, in all three societies the middle-class families were more effective problem-solving groups, and in all three societies the middle class demonstrated a greater ideational fluency and flexibility. Most important of all from the viewpoint of sociology is the much higher volume of communication among members of middle-class families, suggesting that in all three societies the social structure of middle-class nuclear families is more closely interwoven than is the case in the working class.

Finally, let us return to the "industrial man" theory which holds that "to the degree a nation's social structure approxi-

[25] It may be true, as Riessman and others claim, that non-verbal forms of communication are more highly developed among the working class than among the middle class. But the evidence of this study, which is based on a motor situation in which both verbal and non-verbal communication could be used by the families, suggests that non-verbal communication, even if more highly developed, is not a match for verbal symbols in attempting to solve even such relatively simple tasks as determining the rules of this game. At the same time it must be recognized that in this paper the low volume of verbal communication of the working-class families has been viewed in essentially negative terms because the focus of the analysis is on a process which apparently requires a pattern of communication not generally practiced by working-class families. However, in so doing, it is by no means meant to deny the possibility—indeed the likelihood—that the pattern of communication characteristic of the working class constitutes an adaptation to and a method of coping with the difficult environment which they face. Research taking this latter perspective is of great importance for understanding the social world of the slum, but is beyond the scope of this paper (see Frank Riessman, "Low-Income Culture: The Strengths of the Poor," *op. cit.*), and the discussion of "Restricted Communication as Environmental Adaptation" earlier in this paper.

mates the model of a full-scale primary industrial society, to that degree will it more clearly show the social class differentiated structure of responses we have delineated, and do so over a wider range of topics, problems, or areas of experience."[26] The findings of the present study do indeed show differences in communication, creativity, and problem-solving ability of families which are consistent with the social class differences delineated in Inkeles' analysis. However, contrary to the "industrial man" theory, the findings also show that the more urbanized and industrialized the society, the *smaller* the social class differences in these behaviors. Thus, to the extent that these three societies represent the continuum of societies along the urban-industrial axis, it would appear that the effect of more closely approximating the urban-industrial society end of the continuum attenuates rather than creates the type of social class differences which form the focus of Inkeles' analysis.[27]

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[26] Inkeles, *op. cit.* p. 29.

[27] Indeed, certain of the data presented by Inkeles himself can be interpreted as supporting the attenuation rather than the causal hypothesis, for example, the data on job satisfaction.

Patterns of Attitudinal Changes among Foreign Students[1]

Tamar Becker

ABSTRACT

Based on a social-psychological construct, "anticipatory adjustment," two distinct patterns of attitudinal and behavioral changes on the part of foreign students in the United States were predicted: (*a*) the U-curve pattern for students from highly developed countries and (*b*) a reverse pattern for representatives of underdeveloped countries, for whom, it was hypothesized, the involuntary return home at the end of their study period would be perceived as a threat. The findings, based on a study of a trinationality sample of foreign students on the UCLA campus, support the hypothesis. Some unanswered questions regarding the education of foreign students in the United States are considered.

The object of this paper is threefold: (*a*) to review briefly a prominent thesis regarding foreign students' attitudes and adjustment patterns; (*b*) to suggest the boundaries within which its applicability is justified and the areas where an alternative proposition might be more fruitful (based on a theoretical construct that has been empirically tested on a trinationality sample of foreign students on the UCLA campus); and (*c*) consider some hitherto unanswered questions concerning foreign students' programs in the United States.

THE U-CURVE PROPOSITION

The reader of sociological and educational literature devoted to the issue of foreign students in the United States is bound to come across the notion of the U-curve pattern of adjustment and attitudinal changes. This proposition first emerged in 1954 and 1955 as one outcome of the study of Scandinavian students in the United States and was presented by the original investigators as a tentative conclusion.[2] Subsequently, the notion was picked up by various writers—some tested it in the framework of a single-nationality group of foreign students, some examined it in the light of data gathered from a multinationality sample, and still others, satisfied that the proposition had been adequately tested and verified, recommended that it be used as a guideline for policy makers.

A typical description of the hypothesized pattern of attitudinal change to the United States is that by Selltiz and Cook, published some seven years after the original presentation.[3]

> A good deal of evidence suggests that foreign students typically go through a cycle in their feelings toward the host country. Starting out with highly enthusiastic reactions, they are likely to become more critical after a few months; a period of relatively negative feel-

[1] I am indebted to Ralph H. Turner and Charles Wright for their helpful comments on an earlier version of this paper, and to Ralph Turner, Oscar Grusky, and Raymond Murphy for help and guidance through the preparation of the Ph.D. dissertation on which this paper is based. The research was supported in part by a National Institute of Mental Health fellowship (4 F1-MH 20, 848), for which acknowledgment is gratefully made.

[2] William H. Sewell, Richard T. Morris, and Oluf H. Davidsen, "Scandinavian Students' Images of the United States: A Study in Cross-Cultural Education," *Annals of the American Academy of Political and Social Science*, CCXCV (1954), 126-35, and Sverre Lysgaard, "Adjustment in a Foreign Society: Norwegian Fulbright Grantees Visiting the United States," *International Social Science Bulletin*, VII (1955), 45-51.

[3] Claire Selltiz and Stuart W. Cook, "Factors Influencing Attitudes of Foreign Students toward the Host Country," *Journal of Social Issues*, XVIII (1962), 19-20.

ings is likely to be followed by a more favorable evaluation, though the initial rosy view may not be recaptured. Sewell *et al.* (1954) and Scott (1956) reported such a pattern among Scandinavian students in the United States, Coelho (1958) among Indian students and Morris (1960) among students from many different countries.

A year later, the same two investigators, Selltiz and Cook, in collaboration with Christ and Havel (hereafter Selltiz *et. al.*), reaffirm the U-curve contention and apply it simultaneously to the students' adjustment pattern, to feelings of satisfaction with their stay, and to favorableness of their attitudes toward the United States.[4]

Several of the writers acknowledge that not all of the reported evidence supported the proposition, and in some cases it was found to run in the opposite direction. Thus, Smith mentions that Norman Kiel (1951), in the latter's study of Indian students, "gave evidence of appalling shifts of attitude in a direction critical of the United States" at a point in time where the model would suggest an increase in favorableness to the host country. Selltiz *et al.* note that, while Coelho and Morris "found shifts in favorableness consistent with this pattern, Lysgaard (1954) found no such pattern of changes on his attitude questions, though he did find a U-curve on questions about adjustment."[5] Smith attributes the incongruity to Kiel's inadequate control for the length of his interviewees' sojourn; Selltiz *et al.* supply no explanation for the deviation they noted.

It is worth noting that the writers differ widely in their estimation of some crucial parameters of the model, especially the duration of each of the phases of adjustment and favorableness to the United States. Thus, Lysgaard estimated the trough (the period of least satisfactory social relations and personal adjustment and of least favorable evaluation of the United States) to occur between the sixth and the eighteenth months of the student's stay in this country; Morris' findings suggest that the trough is to be found between the tenth and nineteenth months of stay; according to Coelho's data, the period of greatest difficulty and least favorableness to the United States is to be expected between three months and three years. One might also mention that much, if not all, of the supporting evidence was not statistically significant but only "tended" in that direction. Morris, for example, in presenting his findings,[6] clearly notes that they are not statistically significant but support the previous findings,[7] which, incidentally, were also not statistically significant.

In spite of the tentativeness and caution with which the writers who had carried out the empirical investigations presented their conclusion, the U-curve proposition reached, in a recent publication, the status of undisputed fact. In an article published in 1965, Ithiel de Sola Pool states:

> Ultimately, many of the diverse data on favorableness of attitude toward the United States jelled in the observation of the now familiar U-shaped curve of changing attitudes. The general finding was that the visiting student typically started with very positive attitudes toward the United States; then, during the

[4] Claire Selltiz *et al.*, *Attitudes and Social Relations of Foreign Students in the United States* (Minneapolis: University of Minnesota Press 1963). See, e.g., pp. 23, 190, 277, and 290

[5] *Ibid.*, p. 290.

[6] Richard T. Morris, *The Two-Way Mirror: National Status in Foreign Students' Adjustment* (Minneapolis: University of Minnesota Press, 1960), p. 105.

Length of Stay (in Months)	*N*	High Favorableness
0–9	60	62%
10–19	49	45
20–29	37	54
30–39	47	53
40–49	47	57
50 and over	76	47

The above tabulation encompasses virtually the total sample, which includes 120 European students; 90 Asians; 61 Middle Easterners; 30 Latin-Americans; and 17 Africans, Oceanians, and Caribbeans—318 students in all, representing 55 countries.

[7] Sewell *et al.*, *op. cit.*

first year, he had problems of adjustment and tended to become disillusioned; but beyond a certain time he gained a deeper and more sophisticated insight and became increasingly favorable toward his host country. This was a finding replicated in many studies, highly general in its application to exchange student programs, and of great practical importance for the design of such programs (Coelho, 1958; Lysgaard, 1955; Morris, 1960; Selltiz and Cook, 1962).[8]

The reader will note that the references supplied are the same as in the previous citation; the only change is in the measure of confidence with which the proposition is presented.

We suggest that, as stated above, the proposition has been extended beyond its "natural" boundaries and that it needs to be re-examined, especially if it is to serve as blueprint material for policy making. The reader may recall that it first emerged on the basis of the study of students in the United States from a single cultural area, Scandinavia. Only later was the proposition extended to include all foreign students, from many different cultural backgrounds. The fact that the later findings did not conclusively support the proposition, in spite of the large samples employed, may be due to the inclusion of student elements that systematically display a different pattern of adjustment and attitudinal change. A priori, we see little reason to expect a western European or Scandinavian student —who characteristically has traveled widely outside his country prior to coming to the United States, and whose racial, religious, and cultural background is relatively akin to that of Americans—to have an initial reaction to this country similar to that of an African or Asian student. As a rule, the latter has not traveled outside his country prior to his journey to the United States, and his trip is likely to be his first venture not only outside his homeland but also outside his ethnic and racial group. And, of course, his cultural background is far more distant from that of the Americans than is the European student's background.

The less cautious proponents of the U-curve proposition claim that the visiting student, regardless of his nationality background, typically starts out with a "highly enthusiastic reaction," to use Selltiz and Cook's words, or at least with a "very positive attitude toward the United States," as de Sola Pool puts it. Yet it would be surprising if that in fact were the typical reaction of an African or even an Indian student, for whom being a member of a small and highly visible minority is a novel experience. Under these circumstances, is it likely that this kind of individual could escape the jolt of at least a mild "cultural shock"? Or, is it possible for him to experience a "cultural shock" and at the same time entertain favorable views of the source —the totally strange and alien society? In short, we feel that the U-curve pattern of adjustment and attitudinal change may be a valid characterization of the western European or Scandinavian student in the United States (and very likely of the American student studying in western Europe or Scandinavia) but may not apply to the majority of students from underdeveloped countries.[9]

[8] Ithiel de Sola Pool, "Effects of Cross-national Contact on National and International Images," in H. Kelman (ed.), *International Behavior: A Social Psychological Analysis* (New York: Holt, Rinehart & Winston, 1965), p. 115.

[9] Unlike the Morris and Selltiz *et al.* studies, Coelho's deals with a single-nationality group, Indians. However, the value of his findings in validating the U-curve proposition is moot because what was elicited seems to have been a public, rather than a private, response. The degree of favorableness to the United States and India was determined on the basis of a hypothetical talk that the students were asked to prepare comparing India and the United States, to be delivered before an American audience. It is likely that in this case the students acted in their "ambassadorial" capacity. For Indian students (whose "missionary zeal" to "spread the truth" about India and whose need to maintain a "proper" façade is well known) the setting of even an imaginary American audience casts doubt on the validity of the views expressed as evidence in support of the U-curve proposition (which pertains to privately held attitudes linked to levels of adjustment).

THE "ANTICIPATORY ADJUSTMENT" HYPOTHESIS

Before offering our own hypothesis concerning foreign-student attitudes, we consider briefly a general social-psychological proposition, which we call "anticipatory adjustment," and then derive the specific hypotheses from the general proposition.

The term "anticipatory adjustment" is intended to denote a process of selective adoption of attitudes on the basis of their utility in easing the individual's adjustment to anticipated imminent and drastic changes in his environment. A brief description of this process may run as follows: The individual anticipates a drastic and involuntary change in his environment in the near future. Anxiety mounts as the future becomes increasingly more salient and looms menacingly. The ego seeks to protect itself against this threat and to reduce anxiety. One defense mechanism to which it may resort is a process by which attention is restricted to only those features in the present environment that, from this individual's point of view, are unattractive and undesirable. On the other hand, those features hitherto viewed favorably are carefully avoided or ignored. Concomitantly, the intellectual scrutiny of the future state into which the individual expects to move shortly is motivated by a determination to find in it positive features, which are then stressed and exaggerated and operate as depressors of the threatening elements.[10]

However, when the external circumstances do not allow effective screening of the disturbing elements, or when the individual is uneasy about the shift that has taken place in his attitude toward the present environment, new meanings may be given to the formerly attractive features. The new interpretation may be attributed to "greater understanding due to experience" or to "putting things in the right perspective and thus cutting their importance down to size."[11] To the extent that the individual is successful in seeing only that which is congruent with the needs of his anticipated change or in reinterpreting that which he cannot ignore, he will emerge with a new orientation, psychologically comfortable and free from serious contradiction among its components. This orientation will be marked by hostility to the present environment and idealization of the anticipated one. If the individual fails in this task, he may experience "double alienation," a desire for complete withdrawal or some other escape.

This general hypothesis was applied to foreign students who have no option but to return home at the conclusion of their studies. We predicted two distinct patterns of attitudinal and behavioral changes.

1. STUDENTS FROM DEVELOPED COUNTRIES

In accordance with the U-curve proposition, we anticipated an initial enthusiasm toward the host country, followed by a decline in favorableness due to adjustment problems, culminating in a rise in favorableness before the return home, since in this case the expected change is neither drastic nor perceived as a threat. It was further hypothesized that, compared with students from underdeveloped countries, the attitude of students from developed countries to the home country would be less defensive and less nationalistic throughout the sojourn—that they would associate

[10] The role of personal factors, both as perceptual "gate keepers" and as distorters of cognitions, is well documented in the social-psychological literature. For a summary statement, see David Krech, Richard S. Crutchfield, and E. L. Ballachey, *Individual in Society* (New York: McGraw-Hill Book Co., 1962), p. 23.

[11] This reasoning is in line with Festinger's contention that "when such dissonance exists, the person will try to reduce it either by changing his actions or by changing his beliefs and opinions. If he cannot change the action, opinion change will ensue. This psychological process, which can be called dissonance reduction, does explain the frequently observed behavior of people justifying their action" (Leon Festinger, "The Theory of Cognitive Dissonance," in Wilbur Schramm [ed.], *The Science of Human Communication* [New York: Basic Books, Inc., 1963], p. 19).

more extensively with non-compatriots and expose themselves to a wider range of communications.

2. STUDENTS FROM UNDERDEVELOPED COUNTRIES

Here, a reversed pattern was predicted: The initial and final phases of the sojourn would be characterized by a relatively hostile attitude toward the United States and an idealization of the home country, related in the initial phase to "cultural shock" and in the final phase to the process of anticipatory adjustment. This process is deemed to be operating here, since the return to an underdeveloped country, characterized by a low standard of living and restricted opportunities for professional work, would be perceived as a threat. In these two phases, expressed commitment to the home country would be high, associations would be sought mainly among compatriots, and preferred communications would be restricted to those congruent with the predicted attitudes. The middle phase would be marked by relative detachment from the home country and the compatriot group, and by a less stereotyped and more favorable view of the United States.

THE STUDY

A sample of twenty-seven Indians, twenty-five Israelis, and twenty-five Europeans, taken to represent underdeveloped, semideveloped, and highly developed countries, was drawn from the foreign-student population on the UCLA campus in the spring of 1964. Each nationality sample contained students in the three phases of the sojourn in roughly equal proportions.

On the basis of previously published studies and our own prestudy (in which general impressions and areas of interest were explored in unstructured interviews with students from many countries), two measuring instruments were devised:

1. The main instrument was a schedule of open-ended questions, applied first to the United States and then to the home country, and dealt with issues the responses to which we felt would serve as indicators of favorableness to the two countries. The areas covered were: Americans and compatriots as social beings (friendliness, religious and political tolerance, treatment of foreigners); the American and the home-country family (relations between the spouses, between parents and children, male and female roles, and the position of the elderly); the American and the home-country class structure; and the chance for upward mobility in each of the two countries. The interviewees were also asked about the desirability of transference of any cultural features from the American society to that of the home country, and vice versa. The strength of the interviewee's nationalistic feelings was probed by questions on his assessment of his obligation to his nation and to his compatriot students on campus, and by his reaction to a compatriot student who decided to remain in the United States permanently

2. The supplementary instrument was a short, two-part Semantic Differential test, including a series of personality attributes and some cultural features, applied first to Americans and then to the home country. This test, which took about five to ten minutes to complete, was administered at the end of a rather lengthy interview, which lasted from one and one-half to two hours. The object of the Semantic Differential test was (*a*) to discover the degree of correspondence between data gathered by relatively unstructured and highly structured instruments tapping the same attitudinal area and (*b*) to observe the interviewees' reactions to these two different experiences.[12]

[12] For a detailed report on the relationship between the results of the Semantic Differential test and the interview data, see chap ii of our unpublished dissertation ("Perceptions and Attitudinal Changes among Foreign Students on the UCLA Campus," UCLA, 1966) Briefly, the correlation between the two sets of scores obtained by these two instruments, although positive, was not as high as had been expected. In general, the response to the Semantic Differential test appeared to be far

FINDINGS AND ANALYSIS

1. SCORING

The answers were recorded on separate cards to avoid "contamination by memory," after which they were scored on the basis of pre-established scales for each set of answers, modified to fit the entire range of actual responses. The individual scores were grouped into three composite scores of "favorability to the United States," "favorability to the home country," and "commitment to the home country," corresponding to the three sets of questions designed as indicators for these attitudes. These three composite scores were calculated for each individual and for each nationality group.

In passing, we wish to note our full awareness that the dimension of favorableness to the United States is a component that can only be analytically abstracted from a complex system of cognition and affective responses to the United States. Thus, individuals with identical scores of favorableness to the United States or to the home country or with identical scores of commitment to the home country may, in effect, be reacting to very differently perceived realities.[13] However, for the purpose of our investigation, the study of attitudinal change, we felt this to be a reasonable procedure.

2. TESTING THE HYPOTHESES

In two initial attempts to make analytical sense of the data, we followed the procedure of previous investigators (Morris and Selltiz *et al.*, among others) and grouped the members of each of the three nationalities into three nearly equal groups on the basis of their time of arrival and then on the basis of their anticipated time of departure. The results failed to reveal any discernible pattern of interphase attitudinal changes. We then decided to employ "psychological" rather than actual time, and the subjects were grouped on the basis of the difference in the percentage of the sojourn already completed. This new method was felt to have two advantages over its predecessors: (*a*) Since our revised procedure employed the entire sojourn, from the date of arrival to the expected date of departure, we felt more justified in talking about three phases of sojourn; and (*b*) because our concern was with the possible effect of the expected return to the home country, it was the subjectively perceived time before departure, rather than actual time, that was relevant to our hypothesis, and the subjectively perceived length of any segment of actual time would depend on the portion of the total sojourn that it represented. A departure date eight months away, for example, may seem imminent to a student who has been here seven years, as was the case with several of the Indian students, or it may seem distant to a student whose total sojourn lasts one academic year.

After rank ordering the interviewees in each nationality group according to the percentage of the sojourn covered, each nationality group was again divided into three almost equal subgroups, and for each we calculated the arithmetic means of "favorableness to the United States," "favorableness to the home country," and "commitment to the home country." The results with respect to the first two variables are presented in Tables 1 and 2.[14]

All of the four probabilities associated with the interphase differences in the Indian category may be considered statistically significant, as $P < .10$. In the Israeli

more guarded than to the open-ended interview. The neutral category was checked with great frequency, even by those individuals who had expressed rather extreme views in the previous section of the interview. "Here you are really trying to pin me down," was a characteristic comment. Thus, as a measure of attitude, these data were considered less reliable by this investigator than the data gathered by the open-ended questions.

[13] For an elaboration of the determinants of perception, see our dissertation, *op. cit.*, chap. iii.

[14] For the results on commitment and the accompanying discussion, see *ibid.*, chap. vi.

and European categories, only one out of the four probabilities falls in the critical areas.

3. THE RELIABILITY OF THE SCORING PROCEDURE

As mentioned earlier, each answer was placed on a separate card in order to avoid a carry-over judgment from one response to another. The cards were arranged so that each pack contained the entire set of responses to a particular question. Each set was read and scored by two readers—this investigator and another sociologist—using the same code book. An r_s was calculated to determine the agreement between the two readers with regard to the rank ordering of all respondents on the two variables of favorableness to the United States and favorableness to the home country, with results as outlined in Table 3.[18]

In addition to measuring the agreement between the two readers with regard to the respondents' ordinal scores, we compared their judgments about the respondents' favorableness to the United States and home country based on the raw scores, and here, too, the agreement was high. The high level of agreement between the readers was particularly gratifying, since

TABLE 1

RELATIVE MEAN SCORES OF FAVORABLENESS TO THE UNITED STATES AND HOME COUNTRY (INDEX: 100 = MOST FAVORABLE)

Nationality Group	Phase of Sojourn	N	Percentage of Sojourn Completed	Favorableness to the U.S.	Favorableness to the Home Country
India	I	8	12–36	59.2	93.6
	II	9	38–60	78.5	58.0
	III	9	63–96	54.3	100.0
Israel	I	7	8–27	56.8	91.5
	II	7	28–65	72.3	90.0
	III	8	73–92	61.3	89.7
Europe	I	6	19–36	81.8	63.1
	II	6	40–55	76.6	81.9
	III	6	58–92	87.8	65.2

TABLE 2

PROBABILITIES FOR TABLE 1: MANN-WHITNEY U-TEST COMPARING SCORES OF ADJACENT PHASES

Nationality Group	Pairs of Phases	N_1	N_2	Favorableness to the U.S.		Favorableness to the Home Country	
				U	P	U	P
India	I and II	8	9	20	.070	7	.010
	II and III	9	9	16	.025	10	.010
Israel	I and II	7	7	13	.082	22	.402
	II and III	7	8	20	.198	25	.389
Europe	I and II	6	6	11	.155	7	.047
	II and III	6	6	12	.197	10	.120

[18] To test the effect of ties in the scores on the size of r_s, we recalculated the lowest correlation, as recommended by Sidney Siegel, *Nonparametric Statistics for the Behavioral Sciences* (New York: McGraw-Hill Book Co., 1956), pp. 217-18. The first result was $r_s = .746$; corrected for ties, $r_s = .740$.

they differ greatly with regard to their national and ethnic backgrounds, and their only encounter took place in connection with this project.

4. DISCUSSION

A. *Favorableness to the United States.*—An inspection of the column "Favorableness to the United States" in Table 1 reveals a pattern of variations among the three phases for each of the three nationality groups which is consistent with our three-stage hypothesis. In Phase I, the Indians and the Israelis are far more critical of the

TABLE 3

SPEARMAN RANK CORRELATION BETWEEN ORDINAL SCORES OF FAVORABLENESS TO THE UNITED STATES AND HOME COUNTRY,* ASSIGNED TO RESPONDENTS BY TWO INDEPENDENT READERS

	Indians	Israelis	Europeans
Favorableness to the United States	.81	.91	.86
Favorableness to the home country	.90	.87	.75

* The correlations are very high and significant at the .001 level.

United States than are the Europeans. It is difficult to ascertain, however, how much of the difference between the Indians and Israelis, on the one hand, and the Europeans, on the other, is due to prevailing attitudes about the United States in the student's home country and how much is due to differences in the initial adjustment difficulties. The data suggest that a sense of national inferiority on the part of the Indians may significantly color their initial experiences and attach a negative meaning to a neutral or even friendly gesture on the part of Americans. Typical were comments such as, "They (Americans) are overnice. . . . I used to be sensitive here; when you come from an underdeveloped country, you are oversensitive, afraid to be treated as backward"; or "Americans help foreigners very much, but they have one thing in their mind: Foreigners are less civilized and less cultured. It's obvious, even if they don't show it; a person who is sensitive will know it." These and similar comments made by our Indian interviewees are very much in accord with what might be expected on the basis of Lambert and Bressler's "Sensitivity-Area Complex" analysis. They conclude that "in normal social interaction Americans will inadvertently allude to certain national status-rooted 'sensitive areas,' the mere mention of which even in a neutral or favorable context will cause the visitor to perceive hostility, a condition which will in turn evoke reactive hostility."[16] These "sensitive areas," according to the investigators, are associated with colonial status and reactive nationalism.[17]

In contrast, prearrival anxieties in the case of the Europeans—related to either their nation's role in World War II or to a general uneasiness about adjustment problems in a foreign country—seem to have resulted in a sense of well-being and favorableness to the United States when the actual initial experiences proved gratifying: "It was a nice surprise how they treated me as a German, because I felt very bad about my history and past. . . . I was afraid of coming to America as a German. I could understand it if they didn't like me, but it didn't happen; they take you as a person"; or "I have had a good experience; wherever I go here people tell me, 'I had a grandmother from Norway.' "

Phase II represents the most favorable

[16] Richard D. Lambert and Marvin Bressler, "The Sensitive-Area Complex. A Contribution to the Theory of Guided Culture Contact," *American Journal of Sociology*, LX (1955), 584.

[17] Of the seven "sensitive areas" mentioned by Lambert and Bressler, the most salient in our interview materials is the first: "Indians are basically inferior. Westernization is superficial. India will never be the equal of Western countries" (*ibid.*, p. 586). However, our main interest focuses less on the substance of such unfavorable reactions and more on the variations in favorableness to the United States among the three phases of the sojourn.

period toward the United States for both the Indians and the Israelis. As hypothesized, this is probably the most comfortable period for the foreign student from an underdeveloped country: The initial pains of adjustment have been overcome, the environment seems less alien, more comprehensible, more controllable. This relative psychological relaxation characterizing the middle phase of the sojourn, it is felt, explains the more "benevolent" attitude to the United States expressed by the group in question.

The difference in favorableness to the United States between Phases II and III is crucial from the standpoint of our hypothesis. As anticipated, both the Indian and Israeli students of Phase III show a much more hostile attitude to the United States as compared with their compatriots in Phase II and a far more hostile attitude than the Europeans in Phase III. Note, for example, the emotional pitch and the sense of moral indignation in the summary assessment of Americans by an Indian scholar about to return home after a lengthy stay in the United States: "The Americans could learn the philosophy that life is not just a fast moving machine. They should examine whether there is an ideal besides making money, being rich and driving a Cadillac. Most Americans only try to get material things. We think another way: The achievement of life is to have peace of mind. If I don't have wealth, should I cry about it? No, we should enjoy sacrificing." Whatever the impact of the American experience on the foreign student,[18] there is no reason to assume that the revealed difference in the level of favorableness to the United States between Phases II and III is due to changes in the external environment; rather, it is proposed that the difference is due to a change in the individual's psychological needs. We believe that the anticipatory adjustment process described earlier provides a plausible explanation for this change: In the course of this adjustment process, the individual tends to focus on and exaggerate that which, from his point of view, is objectionable in the environment he is about to leave, thus making the involuntary departure more palatable.

B. *Favorableness to the home country.*—The data entries in the column "Favorableness to the Home Country" in Table 1 lend further support to our hypothesis. The difference in attitude to the home country among the three phases follows, by and large, a pattern converse to that of attitudes to the United States. Both the Indians and the Israelis express favorable attitudes toward their country at the same time that they are critical of the United States. The Europeans, on the other hand, are not only a great deal more critical of their own people at this phase than the Indians and the Israelis are of theirs but in fact are much more favorably inclined toward the Americans than to their compatriots. It is felt that the attitudes both to the home and host country in the initial phase are a function of the social and cultural distance between the United States and the home country: The greater the distance, the greater are the difficulties of adjustment to the new environment, both because of the student's own reaction to the sociocultural gap and because of the reaction of others to his being "different." This contention is akin to that of Lambert and Bressler who propose that the foreigner's identification with his home country is enhanced when the following is perceived by the visitor: "*a*) that people in the host country easily mark him as a stranger because of the high visibility of conspicuous racial and behavioral differences; *b*) but there exists a well-established stereotype in the host country emphasizing cultural differences, *c*) that people in the host country ascribe low status to his country."[19] It is easy to see why the foreign student, being forced to come to terms with

[18] For a discussion of this issue, see our dissertation, *op. cit.*, chap. vii

[19] Lambert and Bressler, *op. cit.*, p. 591

the new environment, will express his sense of alienation and frustration by glamorizing the ways of his people and severely criticizing the ways of the Americans.

In Phase II, we find that the more favorable view of the United States on the part of the Indian students coincides with a much more critical view of their own country. Having achieved a measure of physical and social comfort, the student is eager to explore his American environment and loosen the emotional and social grip tying him to his compatriot group. Many of the middle-phase interviewees openly expressed pride in becoming more "objective," more "open minded," able to see the good and the bad in both societies. In the words of an Indian student who reached the midpoint of his sojourn, "I have gone like a pendulum. . . . Politically, the image of my own country has changed. Now I have a realistic image of the political situation, more so than when I came—I am in a better position of being objective; like looking at yourself in the mirror." Another Indian student expressed it this way: "I became more critical in general. I would not accept either the American or Indian system. I will consider both and choose my own." This detached "spectatorship" was not limited to the political sphere but was extended to such areas as parent-child relationships, male and female roles, and even to areas so emotionally laden for most Indian students as the role of the elderly in the family and in society.

The attitude of the Indian students to their home country in Phase III yields the highest score of favorableness to either the United States or to the home country among the eighteen subgroups in the table and a 42 per cent increase in favorableness to home country over Phase II, the biggest change between any two adjacent phases. Since the mean score of this same group's attitude to the United States represents the most *un*favorable attitude to either the United States or the home country of any of the eighteen subgroups, it is clear, at least in the case of our sample, that the last phase of the sojourn is characterized by the most extreme polarization in the feelings of the Indian students to the United States, on one hand, and to the home country, on the other. As stated in the hypothesis, this intensified idealization of the home country makes the involuntary return home not only more palatable but, in addition, it is conjectured, gives the individual a feeling of mastery over his destiny: "I return not because I am forced but because I choose to."

Just as in Phase II many Indians took pride in their new found "objectivity," so in Phase III many take pride in finally having "seen the light" and in having recovered from the temporary infatuation with material comfort. Heightened emotional pitch and a liberal employment of time-worn clichés are most characteristic of this phase. More than in the previous two phases, interviewees tend to express "righteous indignation" with regard to Americans, while imputing high moral purpose to Indians. Indignation is also expressed against compatriots who have debased themselves and allowed lust and greed to obscure the more noble features of life: "Some people like to follow the American way blindly. Others don't want to follow at all. Some students have an illusion. We don't have a free dating system. Some Indian students see girls in scanty dresses and think that this is ideal, so they try to make the best of it, forgetting that they will have to go back. They will be frustrated. It happens only with those students who have no ideal in life and take whatever comes without planning." In our judgment, it is the hypothesized process of anticipatory adjustment that best explains the contrast between the simplistic, "sermonizing" statements made by distinguished Indian scientists about to return home and the more balanced and differentiating views of their counterparts in the middle phase of their sojourn.

We wish to make clear at this point that

our findings are not offered as "hard evidence"; based on a relatively small sample and crude instruments, they are, of course, merely suggestive. We feel, however, that, when taken in conjunction with the theoretical principles to which they are linked, they carry sufficient weight to question the applicability of the U-curve proposition to representatives of underdeveloped countries both on theoretical and empirical grounds.

CONCLUDING COMMENTS: SOME UNANSWERED QUESTIONS

If we may be permitted to assume the validity of the anticipatory adjustment hypothesis and its correlate, the contrasting pattern of adjustment and attitudinal changes among students from underdeveloped and highly developed countries, then we are confronted with several related questions of theoretical and practical import. Most studies (including our own) of foreign students in the United States are confined to attitudinal changes during the period of the sojourn itself. It is clear, however, that the repeated selection of this time period for investigation has been dictated more by the convenience of the American investigator than by the logic of the problem. The interest in the adjustment and attitudinal changes to the United States and home country on the part of foreign students, from both a theoretical and policy-oriented standpoint, must extend beyond the cutoff point of departure from the United States. Of particular interest is the period of reabsorption into the home country's social and economic milieu. Thus far the number of studies dealing with returnees is very small indeed, and even these few, for the most part, either are descriptive or employ a historical and cultural-anthropological perspective. They do not deal with the problem of attitudinal changes in a systematic and theory-guided manner.

As indicated earlier, our findings are offered merely as suggestive and in need of further testing, but if the pattern of attitudinal changes presented in this paper should be verified by additional tests, then attention ought to be directed to the psychological and situational conditions affecting the returnee's attitudes. It is reasonable to assume that, whatever the prereturn attitudes to the United States, the determinants of these attitudes undergo a significant change after the return to the home country. Fragmentary evidence regarding Indian and Japanese returnees indicates that the effect of the American training on securing a desirable job in the home country, the attitudes of the individual's significant others toward the United States, and the "Americanization" of the "prodigal son" are among the significant elements in the returnee's continous reassessment of the American experience.[29] We believe that this issue deserves a great deal more empirical investigation, guided by and bearing upon the general theory of cross-cultural encounter. The task is one of identifying the social-psychological factors tending to perpetuate or modify, to greater or lesser degree, the student's prereturn attitudes to both host and home country after his return.

A related issue concerning the foreign student and his social environment in the United States and his home country is the likelihood of his experiencing a sense of dual alienation from both home and host societies. Nehru expressed such a feeling in his autobiography: "I have become a queer mixture of the East and West, out of place everywhere, at home nowhere. . . . I cannot get rid of either that past inheritance or my recent acquisitions. They are both part of me, and, though they help me in both the East and the West, they also create in me a feeling of spiritual loneliness not only in public activities but in life itself. I am a stranger and an alien in the West. I cannot be of it. But in my own

[29] See, e.g., John W. Bennett, Herbert Passin, and Robert K. McKnight, *In Search of Identity; The Japanese Overseas Scholar in America and Japan* (Minneapolis: University of Minnesota Press, 1958), p. 83.

country also, sometimes, I have an exile's feeling."[21] Here again it is both of theoretical and practical interest to discover how common, how intense, and how lasting such a feeling is. We ought to examine the cultural and personality characteristics as well as the emotional climate and objective conditions in the student's American and home environment that tend to accelerate or retard such dual estrangement. Further, when such a psychological state does occur, we ought to look into its psychological and social consequences for the individual involved and for the wider circle of which he is a part.

It seems to us that the importance of these and other related questions becomes more apparent when one considers the phenomenal increase in the number of foreign students in the United States in the last fifteen years. According to Cora Du Bois, there were 32,000 foreign students in the United States in 1952, representing an annual expenditure on the part of the American government and of private institutions of $130 million.[22] By 1965–66, the number of students reached 91,943,[23] and there is no reason to expect a reversal in this trend. Although a good number of the foreign students are not publicly sponsored and come here on their own, the program represents a substantial expenditure by American governmental and private institutions in terms of direct cash outlays as well as allocation of increasingly scarce university facilities and human resources. This expenditure is frequently justified on the ground that such a program is an effective instrument of foreign policy, serving a national goal. In this vein, Selltiz *et al.* remark that "much is expected of this exchange; increase in knowledge and in personal development for the individual student, contributions to the development of their home countries, greater understanding and good will among nations."[24]

Thus far, however, the degree of fulfilment of such widely held expectations has not been tested, and we do not really know whether they represent much more than wishful thinking. Surely, studies that terminate with the point of the student's departure from the United States cannot provide us with the answers. We agree with Bennett, Passin, and McKnight that "momentary and immediate results in the form of attitude changes or social adjustment should be seen in their proper scale, and not made the sole criteria for success or failure [of exchange programs]."[25] Nevertheless, we believe that a detailed and long-range study of adjustment and attitudinal changes toward the United States and home country is very much warranted. Such a study is seen as an essential component in a broader investigation, the purpose of which would be a realistic evaluation of the consequences of these programs for the United States, for the underdeveloped countries, and for their student emissaries

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[21] Jawaharlal Nehru, *An Autobiography* (London, 1936), pp. 597–98; quoted by Edward Shils, *The Intellectual between Tradition and Modernity: The Indian Situation* (The Hague: Mouton & Co., 1961), p. 61.

[22] Cora Du Bois, *Foreign Students and Higher Education in the United States* (Washington, D.C.: American Council on Education, 1956).

[23] *New York Times*, December 18, 1966, based on data of the State Department and the Institute of International Education.

[24] Selltiz *et al.*, *op. cit.*, p. 28.

[25] Bennett *et al.*, *op. cit.*, p. 257.

Power Orientation and McCarthyism[1]

Robert Sokol

ABSTRACT

This report of a 1958 survey in a New England city supports earlier studies showing that McCarthyism was related to socioeconomic status, religion, and party preference. The basic objective, however, is to present data which support the proposition that one of the common cross-strata variables associated with McCarthyism was a commitment or receptive attitude to the use of power. There is a general confirmation of this idea with four different indexes of power orientation and with religion and education controlled. A respecification suggests that authoritarianism is more effective as a determinant of a pro-McCarthy sentiment when a socially derived power orientation does not already have this effect.

The 1960's has been a period in which various manifest expressions of power orientation have been prominent in the United States. While the use of power, or the attempt to use it, through the usual political party channels has been a continuing phenomenon, the frequency of demonstrations, marches, strikes, and sit-ins on the part of students, farmers, Negroes, and adult right-wing and left-wing adherents has apparently increased. Direct action as a concept is today a more acceptable vehicle for expressing discontent among a large number of people. During the thirties, the industrial and mining strikes and battles between management and civil police forces and workers possibly accounted for as much disturbance as we have had in the sixties. However, in contrast to the earlier periods, the social composition of the demonstrators and strikers today is more heterogeneous, including most age groups, most socioeconomic strata, all religions, etc. Moreover, the constraints on the police have facilitated the free and open expression of opposition to some law or policy, thereby further legitimating the acting-out process. Who could have imagined during the Korean war and the McCarthy era the kind of outspoken opposition that characterizes the United States' role in the Vietnam war? Not only is the fundamental tenet of patriotism, "my country, right or wrong," being challenged by a substantial minority of the population, but the expression of this opposition is very open and vocal.

This grass-roots ferment along the whole range of the political spectrum springs from many types of grievances, such as the absolute and relative deprivation of the Negroes, the resentment among southerners of federal authority, student discontent with mass society, etc. The dissatisfactions are productive of a willingness to use power in a "legitimate" fashion, as in conventional political party activity, and in "less legitimate" ways, as in sit-in demonstrations. In addition, an unknown quantity of these expressions of power derives from personal proclivities to the use of power for the sake of achieving an end. This might be referred to as the "authoritarian component." Thus, an oversimple interpretation of power-oriented behavior is that it is generated by socially induced discontent as well as by individual predilections in this direction.

It is the assumption of this paper that

[1] The research reported in this paper was in part supported by the Anti-Defamation League, the Dartmouth Filene Human Relations Committee, the Dartmouth Faculty Research Committee, and Tufts University.

for ten or fifteen years after World War II the social structure produced as many dissatisfactions in the population as in the sixties and that there were proportionately as many authoritarian personalities then as now. The different modes of expressing a power orientation in these two periods were in part a function of the impact of the McCarthy-Communist threat attitude syndrome which existed during the earlier period. Demonstrations which vented the resentiments were in the usual political forum. In 1948, the leftist power-oriented individual helped to support a third party and/or fervently worked for Stevenson in 1952 and perhaps in 1956. Those of the opposite persuasion worked for Taft's candidacy and supported McCarthy. But public bearing of witness had little reality in those days. This paper is concerned with only one segment of this period, McCarthyism.

In the books *The New American Right* and *The Radical Right*[2] several investigators have suggested various hypotheses to account for McCarthyism and other manifestations of the so-called radical right. Lipset and Hofstadter suggest that periods of prosperity stimulate political behavior focused on status protection and status aspiration. They interpret McCarthyism as a reflection of status politics in the sense that certain segments of the American population were having status difficulties and that McCarthy's efforts were interpreted by these segments in helpful or vindictive terms. Lipset also identifies other possible determinants of McCarthyism, such as Catholicism, blue-collar Toryism, isolationism, and authoritarianism. Parsons mentions external and internal strains in America which engendered a need to find something to blame; and domestic communism, particularly as conceived by McCarthy, became the target for the release of these strains. Trow[3] suggests that McCarthy's support could be interpreted as the expression of dissatisfaction with various aspects of the social, economic, and political orders in American society, underscoring the role of channeling the discontent by status and group identification. A pervading fear of the directions of mass society led many to support McCarthy because he attacked the power of big institutions, such as the federal government, the army, and higher education.

Bypassing some of the issues raised by these investigators, this paper accepts the general view that McCarthyism was not solely an outcome of the conditions which generate status-class hostility such as was reflected in the differential indorsement of McCarthy. That is, McCarthyism did not arise as a group-interest expression of some sectors of the population, such as midwestern populism, but came to represent an outlet for various strains, dissatisfactions, and personal inadequacies. Although McCarthy received most of his support from the lower strata, the upper strata were represented in not insignificant proportions among his following.[4] There appears, then, a need to determine empirically those characteristics which have cross-strata significance for McCarthyism. This paper offers evidence that a power orientation is one such characteristic.

The central hypothesis of this paper is

[2] Daniel Bell (ed.), *The New American Right* (New York: Criterion Books, 1955); and Bell (ed.), *The Radical Right* (Garden City, N.Y.: Doubleday & Co., 1963). Other sources which have relevance include: Richard Hofstadter, *The Paranoid Style in American Politics* (New York: Alfred A. Knopf, Inc., 1965); Seymour M. Lipset, *Political Man* (Garden City, N.Y.: Doubleday & Co., 1960); Nelson W. Polsby, "Towards an Explanation of McCarthyism," *Political Studies*, Vol. VIII (1960); Harold M. Hodges *et al.*, "A Sociological Analysis of McCarthy Supporters" (unpublished paper presented at the 1957 meeting of the American Sociological Society).

[3] Martin Trow, "Small Businessmen, Political Tolerance, and Support for McCarthy," *American Journal of Sociology*, Vol. LXIV (November 1958); and Trow, "Right-Wing Radicalism and Political Intolerance: A Study of Support of McCarthy in a New England Town" (unpublished Ph.D. dissertation, Columbia University, 1957).

[4] Lipset in D. Bell (ed.), *The Radical Right*, pp. 331–32.

that *one* of the reasons for McCarthy's support was the existence in all strata of American society of a considerable amount of felt power deprivation. Many people were in short supply of influence, and, if of a right-of-center persuasion, they were likely to perceive McCarthy as a symbol of power, an unpolished "small man" type of power directed against powerful institutional sectors of the social system. McCarthy, according to this idea, came to represent the figure of the insignificant, powerless individual in mass society. Characteristic of these people was a lack of personal power or their perception of such a lack. That is, objectively and/or subjectively, they experienced a relative absence of social, economic, or political significance. This particular inadequacy provided a state of mind receptive to ideas and activities which tended to belittle powerful individuals and organizations. McCarthy's activities were often directed against the heads of well-established organizations or representatives of powerful institutional structures, such as the federal government, the military, mass media, and higher education. McCarthy's crusade was probably well received by those individuals who were objectively with little power or by those who felt this way. Symbolically, it represented a striking-back at the impersonal institutional forces of modern society (a viewpoint offered by Trow): and psychologically, it provided a sense of power which was vicariously experienced.

METHODS

Completed interviews were obtained from 453 adult residents of a generally upper-middle-class suburb of Boston containing slightly more Protestants than Catholics. The survey was done in 1958, about one year after the death of Senator Joseph McCarthy. Two types of samples were drawn from the town's *List of Residents*. In the first, a random sample of 350 adults from all precincts was chosen to represent a cross-section of the town. The second sample was intended to increase the probability of selecting men with inconsistent socioeconomic statuses. A random selection of 150 men with non-Anglo-Saxon surnames was chosen from the two wealthiest precincts, on the assumption that this would increase the chances of having higher-economic-status respondents with lower ethnic status in the sample. This second sampling plan was used to satisfy the needs of a study on status inconsistency. Since combining the latter sample with the cross-sectional sample would seriously affect the data for this paper, all data will be presented with education and religion held constant. By consistent call-backs, the mortality was kept down to 10 per cent so that the total study sample for this paper is 453.[5]

The dependent variable, the attitude toward McCarthy, is measured by a Guttman scale ($r = .94$) composed of four items, with a pro-McCarthy response defined as positive. Responses to the items were in terms of four levels of agreement and disagreement. Two of the items were worded positively and two negatively.

1. The people who opposed Senator McCarthy's investigations were doing it for the best interests of the country (positive = 53 per cent).
2. The work done by the late Senator McCarthy was a great contribution to this country (positive = 64 per cent).
3. Although he may have accused innocent people, Senator McCarthy was generally correct in his methods (positive = 50 per cent).
4. It was a good thing when Senator McCarthy lost his influence (positive = 53 per cent).

The focus of this paper is on that 42 per cent of the sample which score in the highest two of five scale positions. They are defined as "more pro-McCarthy."

For present purposes the sample will be divided into four education-religious sub-

[5] For a complete description of the town and a discussion of the sampling and the questionnaire see Robert Sokol, "Status Inconsistency: Specification of a Theory" (unpublished Ph.D. dissertation, Columbia University, 1961).

groups because educational attainment and religious affiliation are the best predictors of an attitude toward McCarthy. These factors also control for the influence of the special sample which is over-represented with Catholic and higher SES respondents. These subgroupings are: (1) Catholics with no college education, (2) Protestants with no college education, (3) Catholics with at least some college education, and (4) Protestants with a least some college education. The percentage of respondents in each category who are more pro-McCarthy will be given in the relevant tables. Income or occupation could have been substituted for education, but the results would be essentially the same.

Four related, but substantially different, indexes will be used to measure an orientation or motivation to use power—desire for a change in the national power structure, class consciousness, political efficacy, and intolerance of ambiguity.

The first index assumes that an individual who would like to see a reshuffling of the allocation of national influence tends to be more inclined to accept the use of power than the individual who accepts the allocation as he sees it. Respondents were asked a set of questions concerning their perception of the national power structure and what changes they would like to see in it. The technique used is an expansion of Irwin Goffman's[6] index of preference for a power change, in which respondents were asked to rank a list of five social categories in the order in which the respondents saw them as *having influence now* on conditions in this country, after which they were requested to arrange the same social categories in the order they preferred. A modified ρ coefficient of correlation was calculated to measure the degree of divergence of the perceived and preferred rankings. Since the index represents a preference for power change *per se*, the particular direction of the desired change is not measured. Two sets of categories were used, the first consisting of military leaders, political leaders, industrial leaders, labor union leaders, business leaders, and intellectuals, while the second set consisted of state governments, big business, labor unions, small business, and the national government. Forty-seven per cent of the respondents who answered those items were classified as less desirous of a change in the national power structure and 53 per cent as more desirous of such a change.

The second framework for examining power orientations is grounded on the assumption that individuals who are class conscious tend to be committed to the use of power for effecting a certain goal. Class consciousness usually includes two components: (1) an identification of interests in common with others and (2) a willingness to participate, in some fashion, in a collectivity to protect and enhance these commonly held interests. As an index of this concept, a Guttman scale ($r = .90$) was constructed, with class consciousness defined as positive, and comprised of the following items.

1. A man is much better off if he "goes it alone" than if he co-operates with a group which he thinks may help him get ahead (positive = 77 per cent).
2. The people who believe they are in the same social class would be better off if they organized into some group (positive = 42 per cent)
3. People who have the same economic problems would be wise to get together to strengthen their positions (positive = 40 per cent).
4. People with the same economic and social problems should get together to have a stronger say in politics (positive = 34 per cent).

Thirty-six per cent of the sample is defined as less class conscious and 63 per cent as more class conscious.

An individual's feeling of effectiveness in the political process is the third index of power directedness. A sense of effectiveness

[6] Irwin W. Goffman, "Status Consistency and Preference for Change in Power Distribution," *American Sociological Review*, XXII (June, 1957), 275-81.

is measured by a Guttman scale ($r = .91$) modeled after the political efficacy scale developed at the Survey Research Center. An efficacious response is defined as positive. The scale is composed of the following items.

1. Sometimes local affairs and local government seem so complicated that a citizen cannot really understand what is going on (positive = 76 per cent).
2. The individual citizen has practically no say in the community decisions which affect him (positive = 56 per cent).
3. There is little use in writing to public officials because they are not really interested in the problems of the average man (positive = 38 per cent).
4. Voting is the only way a person can have any say about the way the local government runs things (positive = 33 per cent).

About 44 per cent of the sample has been classified as having more political efficacy and 56 per cent as feeling less politically efficacious.

It has been suggested in various publications since and including *The Authoritarian Personality* that one cognitive element associated with an authoritarian orientation is a rigid mental set which predisposes an individual to perceive in black and white terms, to seek unqualified solutions, to avoid uncertainty, to be absolutist in judgments of good and bad, and to be characterized in other ways as well. The concept used to designate this constellation of predispositions is "intolerance of ambiguity." Frenkel-Brunswik has indicated that intolerance of ambiguity is related to "submission to authority, . . . hostility, power-orientation, and rigid social stereotyping."[7] Although it is an indirect measure of an individual's authoritarian-rooted power orientation, intolerance of ambiguity is used as an index of this propensity to power. Those respondents who are more intolerant of ambiguity are regarded as inclined to be authoritarian and power directed, while those who are less intolerant of ambiguity are defined as low in authoritarianism and power orientation. Intolerance is defined as positive in the following items.[8]

1. It is annoying to listen to anyone who cannot make up his mind (positive = 84 per cent).
2. There are just two kinds of people in government: those who are honest and those who are dishonest (positive = 63 per cent).
3. There are just two kinds of school teachers: those who can handle their students and those who cannot (positive = 44 per cent).
4. In most disagreements, there is really only one right side (positive = 25 per cent).

Of the five positions in this Guttman scale ($r = .94$), the two highest contain 47 per cent of the sample and are defined as more intolerant of ambiguity, while the remaining 53 per cent is defined as less intolerant.

RESULTS

McCarthyism, as it has been defined, is related to all four indexes of power orientation, as well as to education, occupation, religion, and political party preference. Individuals who prefer change in the national power structure, who are more class conscious, less politically efficacious, and more intolerant of ambiguity, tend to be more pro-McCarthy in contrast to their corresponding opposites. In addition, Catholics and Democrats are more favorable to McCarthyism than Protestants and Republicans, and education and occupation are inversely related to a favorable McCarthy sentiment. These relationships are evident in Table 1.

It would appear from these data that the idea of the linkage between power orientation and McCarthyism is supported. However, as a result of the strong association of education and religion with McCarthyism, and in order to control for the possible

[7] Else Frenkel-Brunswik, "Further Explorations by a Contributor to *The Authoritarian Personality*," in R. Christie and M. Jahoda (eds.), *Studies in the Scope and Method of "The Authoritarian Personality"* (Glencoe, Ill.: Free Press, 1954).

[8] The scale items derive from unpublished material of the Bay City Studies done at the Harvard Center for Field Studies.

sampling bias mentioned earlier, these factors will be controlled in the subsequent analysis. Under these controlled conditions the general hypothesis is supported, although not without some exceptions.

Aside from the non-college Protestants, the data in the first set of figures in Table 2 sustain the idea that individuals who desire shifts in the national power hierarchy tend to be more pro-McCarthy than those who feel less inclined to want such power shifts. Whatever the reasons, a desire for realignment in the power structure is reflected in more support for McCarthy, except by the lower-status Protestants. These Protestants, however, do indicate a power-deprivation motivation to support McCarthy as indicated by the data on political efficacy.

TABLE 1

PERCENTAGE OF RESPONDENTS WHO ARE MORE PRO-MCCARTHY

Education:	
College graduate	28 (151)
Some college	41 (74)
High school graduate	48 (134)
Some high school or less	70 (73)
Occupation:	
Professional	27 (100)
High business	38 (55)
Middle business	41 (126)
Low business	47 (86)
Blue collar	74 (65)
Religion:	
Protestant	32 (188)
Catholic	54 (229)
Party preference:	
Republican	38 (289)
Democrat	56 (137)
Desire for change in power structure:	
Less desire	38 (193)
More desire	49 (220)
Class consciousness:	
Less	31 (192)
More	54 (239)
Political efficacy:	
More	33 (189)
Less	51 (243)
Intolerance of ambiguity:	
Less intolerant	34 (229)
More intolerant	54 (203)

The second specific hypothesis to be tested is that class consciousness is positively correlated with McCarthyism. The data in Table 2 support this prediction, although not very strongly among the non-college Protestants. In this latter group, there is only a 4 per cent difference in pro-McCarthyism between those who are more and those who are less class conscious. Nevertheless, the relationship does occur for the four education-religious subgroups—class consciousness is conducive to a pro-McCarthy sentiment. This is evidence for the idea that McCarthyism was couched in class-status terms and represented at least an implicit attempt, among other intents, of trying to reshape the American social structure. These results also support the hypothesis that a power orientation was at least one of the core motivations in the appeal of McCarthyism.

The data on political efficacy are also consistent with the central proposition—political efficacy is inversely related to McCarthyism. Within each of the four education-religious subgroups, those individuals who have a low self-estimate of their political effectiveness tend to be more pro-McCarthy than those who have more confidence in their personal effectiveness. In comparison to the zero-order relationship, there is a reduction in the *size* of the difference between the two efficacy categories among Catholics with no college experience, but this specification does not alter the direction of the difference.

Up to this point, the four education-religious subgroups show in at least two of these indexes an association between McCarthyism and power orientation. McCarthyism was a cross-strata phenomenon, and one of the common elements was a subjective pattern. This suggests that McCarthyism was for some respondents not simply an attempt to eliminate the threat of internal conspiracy but was an expression of an acceptance of power as a social instrument. The literature[9] on McCarthyism implies that this idea was manifested by McCarthy's appeal to many people as

[9] See Bell, *The New American Right* and *The Radical Right*.

someone who tried to diminish the influence of certain well-established points of power in the American social structure. These influence blocks have been described as liberals who are soft on communism, as misguided intellectuals, as misdirected members of the American aristocracy, etc. One inference from the evidence presented so far is that McCarthy supporters thought these sectors of the power hierarchy should be downgraded and that McCarthy was the man to do it. Their support of McCarthy was to a great extent shaped by a power orientation which was based on some dissatisfaction with the national influence structure. They were McCarthy supporters in part because they accepted techniques of power that McCarthy used against certain groups they felt should be brought down a few pegs.

The fourth index, intolerance of ambiguity, is quite clearly a rather indirect measurement of orientation to power. While its use in the present context rests on the clinical evidence cited earlier, it is clear that its relationship to McCarthyism is similar to the three other indexes. As is shown in Table 2, those who are more intolerant of ambiguity are more apt to be pro-McCarthy than those who are less oriented in this way. The relationship is very weak for the Catholics with college experience, but the difference is still in the predicted direction. Therefore, in four separate tests, the general hypothesis of this paper is supported by the data—power-oriented persons were more likely to be favorable to McCarthy than those who were less power motivated.

Of the four independent variables shown to be related more or less generally to McCarthyism, the last one, intolerance of ambiguity, is by far more rooted in personality than the others. The latter are less subjective with respect to their content. The index of preference for power change is based on preferred shifts in the influence positions of specific national social categories. The class-consciousness scale rests on the acceptance of the objectives of class-reference groups. Political efficacy, although more closely connected to personality, is based on a reaction to the political institutions of a mass society. Each of these factors is specific to some sociological context, while the intolerance-of-ambiguity concept is relatively free of group and institutional frames of reference.

TABLE 2

PERCENTAGE OF RESPONDENTS* WHO ARE MORE PRO-McCARTHY BY EDUCATION, RELIGION, AND POWER ORIENTATION

Variables	No College		College	
	Catholic	Protestant	Catholic	Protestant
Desire for change in power structure				
Less change	59 (54)	50 (32)	36 (42)	18 (57)
More change	72 (60)	44 (43)	48 (61)	31 (49)
Class consciousness				
Less	51 (43)	42 (33)	31 (51)	12 (57)
More	73 (77)	46 (48)	52 (58)	37 (49)
Political efficacy				
More	62 (32)	35 (34)	33 (56)	36 (55)
Less	66 (88)	50 (48)	53 (51)	33 (48)
Intolerance of ambiguity				
Less intolerant	53 (49)	27 (33)	41 (64)	19 (72)
More intolerant	73 (71)	55 (49)	44 (45)	32 (34)

* The bases for the percentages are within the parentheses.

A central concern of social psychology is

the question of the relative influence of personality and environment in the determination of and change in sentiments and behavior. Illustrative of this concern is the research in prejudice, leadership, extreme situations, and voting preferences. In the present context, the differences among the power-orientation variables afford an opportunity to explore this issue. In addition, this question suggests the possibility of refining the basic proposition of the paper.

If a sufficient socioeconomically derived power motivation exists for an individual, the effect of intolerance of ambiguity on McCarthyism will be reduced, while, in the relative absence of such a motivation, the effect of intolerance of ambiguity will be sustained. This specification of the predictability of intolerance of ambiguity is based on the idea that McCarthy's primary appeal for various subgroups in the country rested on the multifarious implications of his crusade and, secondarily, on the compatibility of certain personality characteristics and McCarthyism. In the terms of this paper, socioeconomically based power orientations were more instrumental in shaping a favorable attitude toward McCarthy than was the personality-rooted power orientation. To be sure, both sources of power orientation probably operated together, but the sociological source had the greatest effect on the McCarthyism attitude.

In order to test this hypothesis, it is necessary to compare simultaneously the effect on a favorable McCarthy sentiment of intolerance of ambiguity and the three other variables. Since this would result in a third-order cross-tabulation with a drastic reduction of cases in all of the subgroups, the test is presented in two tables, in Table 3 with education controlled and in Table 4 with religion controlled.

TABLE 3

PERCENTAGE OF RESPONDENTS* WHO ARE MORE PRO-MCCARTHY BY EDUCATION, INTOLERANCE OF AMBIGUITY, AND POWER ORIENTATION

Variables	No College		College		Differences Produced by Intolerance of Ambiguity	
	Less Intolerant (a)	More Intolerant (b)	Less Intolerant (c)	More Intolerant (d)	(ab)	(cd)
Desire for change in power structure:						
Less change	33	70	20	34	37	14
More change	49	68	36	44	19	8
Class consciousness:						
Less	33	61	17	29	28	12
More	51	67	42	47	16	5
Political efficacy:						
More	47	48	24	20	1	−4
Less	38	70	37	45	32	8

* The bases for the percentages range from 25 to 92.

If the proposed specification is to be supported, the difference in the pro-McCarthy percentages between the less and more intolerance of ambiguity categories should be smaller for those individuals who are more in favor of national power shifts, more class conscious, and lower in efficacy than their respective opposite types.

With one exception, the hypothesis tends to be supported for two of the three "social" factors: the desire for a change in the power structure, and class consciousness.

For these two variables, the percentage difference between those who are more and those who are less intolerant of ambiguity is *smaller* for those who are by definition power oriented than it is for those who are less power oriented. That is, the relationship between the personality attribute of intolerance of ambiguity and McCarthyism is qualified so that it is most effective among individuals who are not already committed to a social power orientation and least effective among individuals who are committed to a power tendency. This may be seen by comparing the percentage differences in Tables 3 and 4. Among those who are more in favor of a power change and are more class conscious, that is, the power-directed respondents, the differences in McCarthy indorsements produced by more and less intolerance of ambiguity are smaller than among those who are less in favor of power changes and are less class conscious.

However, there is one striking reversal of this pattern. The results for political efficacy are completely reversed from the predicted pattern. According to the formulation, those who are less politically efficacious are the ones who are power oriented and for whom the intolerance of ambiguity variable should be least effective. Tables 3 and 4 indicate quite clearly that this is not so, that is, intolerance of ambiguity works most effectively among those who are low in efficacy and least effectively among those who are high in efficacy.

To explain this finding, it is necessary to call into question the manner in which political efficacy has been used in this paper. Those who were low in efficacy were defined as power oriented because their sense of political futility would appear to have predisposed them to want some say in their destiny. This definition regarded the efficacious respondents as being low in power orientation due to their favorable self-evaluation of their own voice in government. It is evident that this formulation should be revised. Respondents who are politically efficacious feel not only that political and social change is possible but that they do have or can have some influence in bringing about this change. Clearly, a predisposition to the use of power exists among these individuals. However, in the low-efficacy group, there is less

TABLE 4

PERCENTAGE OF RESPONDENTS* WHO ARE MORE PRO McCARTHY BY RELIGION, INTOLERANCE OF AMBIGUITY, AND POWER ORIENTATION

Variables	Catholics: Less Intolerant (a)	Catholics: More Intolerant (b)	Protestants: Less Intolerant (c)	Protestants: More Intolerant (d)	Differences Produced by Intolerance of Ambiguity: (b−a)	Differences Produced by Intolerance of Ambiguity: (d−c)
Desire for change in power structure						
Less change	33	64	21	33	31	12
More change	55	63	23	52	8	29
Class consciousness						
Less	35	49	14	42	14	28
More	57	69	33	49	12	16
Political efficacy						
More	41	47	21	28	6	7
Less	51	68	24	53	17	29

* The bases for the percentages range from 25 to 64.

involvement with, and less inclination to use, instruments of influence. The feeling of powerlessness of these low-efficacy individuals is not due to a lack of awareness that the instruments of power are significant but, rather, is a function of their perception of their position in the power hierarchy. They feel helpless in the face of politicians who operate with other influentials to run the country. They are probably quick to point out the accuracy of their attitude when scandals, conspiracy, and mismanagement are reported at the higher levels, and this may have been why McCarthy was appealing to many in this group. McCarthy's activities may have confirmed their idea that politics is a function of influence peddlers, pressure groups, and entrenched bureaucrats who had been selling out the country because citizens were not strong enough to do anything about it. Therefore, the greater favorability to McCarthy among those who are low in efficacy was probably a result of his attacking sources of power in America, and not essentially a result of their attraction to his use of power per se; while, among those who are high in efficacy, there existed less need to support McCarthy because they felt they could be somewhat effective in handling the issues he raised.

On the basis of this *ex post facto* interpretation, the apparent inconsistent relationship of McCarthyism, political efficacy, and intolerance of ambiguity becomes more meaningful. Intolerance of ambiguity or authoritarianism is a more effective predictor among individuals who are *not* predisposed to use power and is least effective among those who already are disposed in this manner. Tables 3 and 4 show that the personality characteristic of intolerance of ambiguity is most effective as a variable in the low-efficacy, less power-oriented group and least effective in the high-efficacy, more power-oriented group. Thus, the hypothesis of the interaction of the sociological variable of power, and the personality variable of authoritarianism (as indicated by intolerance of ambiguity) in their relation to McCarthyism, is in some measure substantiated, but the initial formulation of the equivalence of low efficacy and power orientation was in error.

In conclusion, this paper is one attempt to document the reason for the cross-strata appeal of McCarthyism. The acceptance of (and/or) willingness to use power per se by an individual has been shown, with some exceptions, to be generally associated with a pro-McCarthy sentiment. Furthermore, it has been indicated that a component of authoritarianism is most effective in producing a pro-McCarthy sentiment when there is a relative absence of a socially determined power orientation. This is not an exhaustive study of the correlates of McCarthyism but, rather, is primarily intended as an approximation to a more adequate test of the presence of power orientation as one of the central motivations of the appeal of McCarthyism in all strata.

DARTMOUTH COLLEGE

The Hierarchy of Authority in Organizations[1]

Peter M. Blau

ABSTRACT

The unexpected finding of a previous study of 150 government agencies, that superior qualifications of the personnel increase the ratio of supervisors, was interpreted to imply that many supervisors improve upward communication, whereas few entail centralized management through directives from the top down. A study of 250 government agencies of a different type confirms the inference that organizations requiring higher qualifications of their personnel are more decentralized, and it shows that the larger proportion of supervisors in them results partly from the narrower span of control of first-line supervisors and partly from the larger number of managerial levels in the hierarchy. Other correlates of a hierarchy with many levels are size, few major divisions, automation, and explicit promotion regulations that give much weight to merit and little to seniority. The implication is that large organizations develop multilevel hierarchies, which remove top management from the operating level, primarily if conditions in the agency, such as automation and personnel standards that assure minimum qualifications, make operations relatively self-regulating and independent of direct intervention by management. Such conditions transform squat structures that are centrally governed into tall hierarchies with decentralized authority. These conclusions are supported by data on still another type of government agency, which reveal essentially the same correlations with multilevel hierarchy.

Advances in the social sciences do not occur in straight lines of uniform progress, as the recurrent rediscoveries of half-forgotten classics indicate, be it Simmel's analysis of conflict or Durkheim's of the division of labor, the insights of Karl Marx, Adam Smith, or even Plato. But neither does the development of sociology move in circles or simply fluctuate between alternative theoretical approaches. There is some continuity, and there is some progress. The analysis of pattern variables by Parsons and Shils surely is a refinement of Toennies' concepts of *Gemeinschaft* and *Gesellschaft*, for example, and the research of Lipset, Trow, and Coleman clearly advances our knowledge of union democracy far beyond Michels' theory of oligarchy which inspired it. The pattern of scientific development may be described as dialectical. Mounting criticisms of one approach lead to concentration on another designed to overcome the first's shortcomings; yet the second approach is likely, in due time, to reveal limitations of its own that encourage still other lines of scientific attack; but slowly some progress is made.

The study of formal organizations is a case in point. Weber's theoretical analysis, which has long dominated the field, was increasingly criticized for presenting an idealized conception of bureaucracy and for examining only its formal characteristics and ignoring the informal modifications that occur in actual practice. In response to this criticism, research on organizations concentrated on informal relations and unofficial practices, the attitudes of individual members and their observable behavior. The resulting studies of the informal organization of work groups and the actual performance

[1] This paper is the sixth report of the Comparative Organization Research Program, supported by grant GS-553 from the National Science Foundation, which is gratefully acknowledged. I also want to thank Marshall W. Meyer for his excellent comments on an earlier draft of this paper as well as for his assistance in the collection and analysis of the data, and Charles Perrow for his helpful criticisms. The staff of the National Opinion Research Center did an outstanding job in conducting a rather unusual survey of organizations and obtaining the required data from virtually all finance departments selected.

of duties in bureaucracies have undoubtedly contributed much to our understanding of these complex structures. While complementing Weber's approach, however, the new focus neglected the basic theoretical problem to which he addressed himself. One question a student of organizations may ask is how the existing conditions in a bureaucracy affect attitudes and conduct, for instance, why bureaucratic conditions stifle initiative and what the processes involved are.[2] But there is another question that can be asked, namely, why certain conditions emerge in organizations in the first place, for example, what determines the development and the characteristics of the authority structure. Weber was concerned with the second problem—explaining the configurations of bureaucratic conditions—whereas recent research focused on the first—investigating their consequences for individuals and groups—to the virtual exclusion of the second, in part because the case study method usually employed is not suitable for answering the second question.

A theory of formal organization, as distinguished from a theory of group life in a bureaucratic context, seeks to explain why organizations develop various characteristics, such as a multilevel hierarchy or decentralized authority. To furnish these explanations requires that the characteristics of organizations are not taken as given but the conditions that produce them are investigated. Thus one may ask how the qualifications of an organization's staff influence the structure of authority in it, or generally what conditions affect the shape of the hierarchy, which are the two problems posed in this paper. In order to answer this kind of question, it is necessary to compare different organizations and not merely to study the influence exerted on behavior by the conditions found in a single case. The method of comparison might involve analyzing bureaucracies in different historical periods, which was Weber's approach; or intensive examination of two contrasting forms of organization, as in Stinchombe's study cited below; or quantitative comparisons of many organizations and multivariate analysis of their characteristics. The last procedure is adopted here.

The assumption made in choosing this procedure is that the analysis of the interdependence between organizational attributes based on systematic comparisons of large numbers of organizations promises to contribute most to organizational theory. If the ultimate aim of this theory is to derive general principles that explain the emergence of structures with various characteristics, the first step must be to advance more limited generalizations that specify the conditions that affect the development of different characteristics, and quantitative comparisons permit such specification. The analysis of the authority structure to be presented is based on data collected from several hundred government agencies. Only agencies of a specific type are directly compared, to eliminate the disturbing influence of differences between types; but the results of one such study are confronted with those of another, to discern whether conclusions are confined to a single type. The inquiry is restricted to the formal attributes of organizations, since it was not possible to collect data on informal patterns and individual attitudes in hundreds of government agencies. This limitation of the approach to organizational research here adopted may well give rise in the future to different approaches not similarly limited to easily accessible data But the prospect of a possible countertrend in the future should not deter us now from exploiting the scientific contribution that systematic comparisons of even relatively simple organizational traits can make at the present stage of knowledge.

The exposition is deliberately designed to call attention to continuities in bureaucratic theory and research, and the paper also seeks to reveal the role that theoretical speculations which go beyond the empirical

[2] See Robert K. Merton, *Social Theory and Social Structure* (2d ed.; New York: Free Press, 1957), pp. 195–206.

evidence play in establishing continuities between different investigations. The research reported is conceived within the framework of Weber's theoretical tradition; it follows his approach of studying the interrelations between formal conditions in bureaucratic structures, rather than the individuals and human relations within them, and it deals with two substantive issues his theory poses—the relationship between expertness and authority, and the significance of the formal hierarchy of offices. Moreover, the continuities from one empirical investigation to another are indicated as the tentative interpretations of earlier findings are tested and refined in a subsequent study. I shall try to illustrate that advancing highly speculative generalizations in interpreting empirical findings serves important scientific functions, for such inferential conjectures are the basis for the cumulation of scientific knowledge, provided that they are followed up by further research. The only connection between different empirical investigations, and hence the only source of cumulation, is the generalizations derived from each that go beyond its limited evidence.

PROFESSIONAL AND BUREAUCRATIC AUTHORITY

The relationship between the expert qualifications of a professional staff and the bureaucratic authority vested in a hierarchy of offices poses an interesting theoretical issue. Professionalism and bureaucracy have much in common, such as impersonal detachment, specialized technical expertness, and rational decision making based on universalistic standards. There are also divergent elements, however, and professional principles often come into conflict with the requirements of bureaucratic authority. Weber implied that the professional authority rooted in expert technical knowledge and the bureaucratic authority rooted in a hierarchy of offices with legitimate claims to disciplined compliance tend to occur together, both being distinctive characteristics of complex rational organizations. "The role of technical qualifications in bureaucratic organizations is continually increasing."[3] But, in addition, "each lower office is under the control and supervision of a higher one."[4] The assumption that professional expertness and bureaucratic discipline are simply two aspects of the rational organization of large-scale tasks not only conflicts with the prevailing impression that professional work suffers if subjected to bureaucratic discipline but also has been questioned on both systematic theoretical and empirical grounds.

In a well-known footnote, Parsons criticizes Weber for confounding two analytically distinct types of authority.[5] Professional authority rests on the certified superior competence of the expert, which prompts others voluntarily to follow his directives because they consider doing so to be in their own interest. Bureaucratic authority, in contrast, rests on the legitimate power of command vested in an official position, which obligates subordinates to follow directives under the threat of sanctions. Superior knowledge is not required for bureaucratic authority (expert knowledge is not what authorizes the policeman to direct traffic, for example, or what induces us to obey his signals), whereas it is essential for professional control, and mandatory compliance is enforced by coercive sanctions in the bureaucratic but not in the professional case. Gouldner similarly stresses the difference between the influence exerted on the basis of technical competence and the compelling authority in a bureaucratic hierarchy, and he derives from this distinction two contrasting forms of bureaucracy—"representative" and "punishment-centered."[6]

[3] Max Weber, *The Theory of Social and Economic Organization* (New York: Oxford University Press, 1947), p. 335.

[4] *Ibid.*, p. 331.

[5] Talcott Parsons, "Introduction," *ibid.*, pp. 58-60.

[6] Alvin W. Gouldner, *Patterns of Industrial Bureaucracy* (Glencoe, Ill.: Free Press, 1954), esp. pp. 21-24.

Research results also challenge Weber's assumption that technical expertness and hierarchically enforced discipline typically occur together. Stinchcombe's comparison of two industries suggests, for example, that the technical skills of construction workers, which contrast with the low level of skill in mass production, promote rational performance and therefore serve as a substitute for the bureaucratic hierarchy through which the work in mass production is rationally organized.[7] Thus technical expertness and hierarchical authority seem to be alternatives, not complementary. Udy's research on the organization of production in 150 non-industrial societies arrives at parallel results.[8] He finds that several bureaucratic characteristics, including a hierarchical authority structure, are directly correlated with one another but not, even inversely, with several rational characteristics, including specialization, which may be considered a primitive forerunner of technical expertness, and so may rational work procedures in general. Udy concludes: "Bureaucracy and rationality tend to be mutually inconsistent in the same formal organization."[9] It is noteworthy that both of these studies do not deal with advanced levels of professionalization but with rather rudimentary forms of expert qualifications.

The various components of professionalism must be distinguished in analyzing its implications for hierarchical authority in organizations. Full-fledged professionalization entails not only expert skills but also a body of abstract knowledge underlying them, a self-governing association of professional peers, professional standards of workmanship and ethical conduct, and an orientation toward service. Some of these factors may easily come into conflict with the discipline required by bureaucratic authority. Research indicates that a professional orientation toward service and a bureaucratic orientation toward disciplined compliance with procedures are opposite approaches toward work and often create conflict in organizations.[10] Besides, the identification of professionals with an external reference group may well lessen their loyalty to the organization.[11] It is also reasonable to expect that conflicts arise as decisions made strictly on the basis of professional standards are recurrently set aside for the sake of administrative considerations by bureaucratic authorities. All these conflicts refer to fairly advanced aspects of professionalization. But Weber's concern was not so much with these components of professionalism as with technical expertness, which he held to be an integral part of hierarchically organized bureaucracies. The findings of Stinchcombe and Udy imply, however, that even a moderate degree of technical expertness conflicts with bureaucratic authority.

Yet there can be no question that hierarchically organized bureaucracies do employ personnel with expert training and qualifications. As a matter of fact, formal organizations typically *require* their staff to meet certain educational or technical qualifications, and these requirements indicate that a minimum of expertness is indeed an integral part of the bureaucratic structure. If expertness itself is, nevertheless, incompatible with some elements of strict bureaucratic authority, as the find-

[7] Arthur L. Stinchcombe, "Bureaucratic and Craft Administration of Production," *Administrative Science Quarterly*, IV (1959), 168–87.

[8] Stanley H. Udy, Jr., "'Bureaucracy' and 'Rationality' in Weber's Organization Theory," *American Sociological Review*, XXIV (1959), 791–95.

[9] *Ibid.*, p. 794.

[10] See, e.g., Roy G. Francis and Robert C. Stone, *Service and Procedure in Bureaucracy* (Minneapolis: University of Minnesota Press, 1956).

[11] See Alvin W. Gouldner, "Cosmopolitans and Locals," *Administrative Science Quarterly*, II (1957–58), 281–306, 444–80; Theodore Caplow and Reece J. McGee, *The Academic Marketplace* (New York: Basic Books, 1958), esp. p. 85; Everett C. Hughes, *Men and Their Work* (Glencoe, Ill.: Free Press, 1958), esp. p. 137; and Peter M. Blau and W. Richard Scott, *Formal Organizations* (San Francisco: Chandler Publishing Co., 1962), pp. 64–74.

ings cited suggest, the question is how it modifies the structure of authority in organizations. The present paper addresses itself first to this problem of how variations in the qualifications of the personnel affect the authority structure in formal organizations, and it then turns to the question of of how other conditions affect the hierarchy of authority.

A simple working hypothesis for investigating the first problem can be derived from a few plausible considerations. Entrance requirements that assure that the agency staff (meaning all personnel, in line as well as "staff" positions) has relatively high minimum qualifications might be expected to lessen the need for guidance and close supervision. The implication is that such expert requirements widen the span of control of managers, increasing the number of subordinates under each,[12] and therefore reduce the proportion of managerial personnel in the organization, because each superior can supervise more subordinates if they are experts than if their lower skills necessitate much guidance and checking. These inferences, which appear straightforward and perhaps even self evident, suggest as an initial hypothesis that expert requirements decrease the ratio of managerial to non-supervisory personnel in organizations, which widens the average span of control.

STUDY OF PUBLIC PERSONNEL AGENCIES

This hypothesis was tested as part of a previously published study of 156 public personnel agencies,[13] and a brief summary of the pertinent results suffices to introduce the problems investigated in subsequent research. The data were collected by the Public Personnel Association through questionnaires to its members. They pertain to the executive agencies of the civil service commissions of most state and major local American governments, with the bias of selection favoring larger agencies and those identified with merit principles. These agencies are small bureaucracies, with a median staff of not quite seventeen (even after the ninety-six with a staff of less than five were eliminated from the analysis). The measure of expertness is whether the operating staff, excluding both managerial and clerical personnel, is required to have a college degree with a specified job-related major.[14] The only available information on the hierarchy of authority is the ratio of managers to non-supervisory officials.[15]

The employment of experts with stipulated educational qualifications does not reduce the proportionate size of the managerial staff in public personnel agencies. On the contrary, under most conditions, though not under all, agencies that require their employees to meet relatively high qualifications are more likely than others to have a high ratio of managers. Expertness, moreover, seems to prevent other conditions from reducing the proportion of managers. An increase in the division of labor tends to decrease the managerial ratio in the absence of expert requirements but increase it in their presence. The hypothesis that the expertness of the operating staff widens the span of supervisory control and conse-

[12] The assumption that less close supervision widens the span of control is made explicit by A. Janger, among others: "If the manager practices close supervision, . . . then he is decreasing the number of people he can supervise. He broadens his span by granting them more authority." ("Analyzing the Span of Control," *Management Record*, XXII [July-August, 1960], 9)

[13] For a full discussion, see Peter M. Blau, Wolf V. Heydebrand, and Robert E. Stauffer, "The Structure of Small Bureaucracies," *American Sociological Review*, XXXI (1966), 179-91

[14] The measure was dichotomized in contingencies tables on the basis of whether at least half of the operating staff has to meet this requirement, but the actual distribution is bimodal and in most organizations either all of the staff or none of it has to meet this educational requirement.

[15] The criterion of manager was being head of a division rather than a journeyman or apprentice, which probably includes most supervisory personnel in these small agencies, though some chiefs of small sections may have been excluded, particularly in the few large agencies (only seventeen have a staff of more than one hundred)

quently is reflected in a low ratio of managers is clearly negated by these results.

In the light of these negative findings we reconceptualized the meaning attributed to the managerial ratio. Since it does not appear reasonable that better-trained personnel officers are more closely supervised than those lacking similar qualifications, the initial assumption that a higher ratio of managers is indicative of closer supervision must be questioned. An alternative interpretation of the significance of this measure, which is compatible with the findings, is that a low ratio of managers implies a centralized authority structure, with managerial authority concentrated in the hands of comparatively few officials. When administrative authority is centralized in few positions, management presumably is carried out largely by a central headquarters that issues directives to the operating staff, whereas management in a structure with a large proportion of authority positions probably entails more reciprocal adjustments as the result of the greater opportunities for communication between managerial and operating personnel.

The difference in assumptions between the original and the revised interpretations of the managerial ratio should be made explicit. The initial formulation assumed that few managers indicate a wide span of control, hence less close supervision, which permits subordinates to exercise more autonomy in their work. The reconceptualization assumes that few managers imply a centralized authority structure, which encourages management through one-sided directives with little feedback from operating levels, thus reducing the autonomy of subordinates. The empirical data, though they were the basis for the revision, are not adequate to validate either set of assumptions. However, the reconceptualization permits some suggestive conjectures.

Appointing employees with expert qualifications and instituting a centralized authority structure appear to be alternative modes of organization, which are somewhat incompatible. This conclusion is in broad agreement with the one reached by both Stinchcombe and Udy in their empirical studies, as well as with the theoretical distinction Parsons makes between professional and bureaucratic authority. But our research specifies the source of the incompatibility. What is inappropriate for an organization staffed by experts is a hierarchy in which official authority is centralized in the hands of few managers. It seems paradoxical that more managers are required to direct employees with superior qualifications than those less well trained. The explanation lies in the implications of a low ratio of managers already adumbrated and in the implications of expert qualifications.

Expert training may be expected to make a man not only more independent in the performance of his duties but also more aware of the broader implications of his work and more capable of detecting operating problems and finding solutions for them than is an untrained person. Experts are more likely to resent having their discretion limited by managerial directives than employees whose lesser skills make them welcome some guidance. In addition, experts can make greater contributions to the improvement of operating procedures than men without specialized training. Hence, feedback communication from the operating staff is especially valuable for management if this staff consists of experts. To take full advantage of the contributions experts can make to operations, management must facilitate the flow of upward communication. A low ratio of managers tends to discourage upward communication, however, inasmuch as a small contingent of managers can most easily direct operations by issuing orders from a central headquarters to the staff. A high ratio of managers increases opportunities for communication between officials responsible for administrative and those responsible for operating decisions. Such extensive two-way communication is of special importance if the personnel has expert qualifications, not alone because experts tend to be more alienated by one-

sided directives but particularly because they make greater contributions through feedback than persons with poorer qualifications.

In short, the interpretation suggested is that the added significance the expertness of the staff lends to the free flow of upward communication in organizations accounts for the association between expert requirements and a high ratio of managers. We were able to muster a bit of indirect evidence in support of this interpretation in the study of public personnel agencies. An expert staff improves operating economy in very small agencies, with a personnel of less than twenty, but it impedes economy in larger agencies unless the clerical staff is relatively large. In agencies of sufficient size to make communication a serious problem, the absence of an adequate clerical apparatus to maintain channels of communication has an adverse effect on operating economy if and only if the staff consists of experts.[16] This finding implies that expert qualifications of operating officials enhance the importance of communication, indirectly supporting our interpretation.

Nevertheless, the generalizations we advanced rest on shaky grounds. They are based on data from only one kind of organization, a specific type of government agency. Besides, public personnel agencies are very small, while bureaucratic theory presumably deals with large organizations. (It should be noted, however, that the stereotype of the huge government bureaucracy with a staff of thousands is misleading as far as particular agencies of state and local governments are concerned, among which a personnel of one hundred is undoubtedly much above the average.) Moreover, the only measure of the hierarchy of authority available, the proportion of managers, is clearly insufficient to analyze this complex institution. Finally, the inference that expertness promotes a decentralized authority structure is highly speculative, since the implication is that decision making is decentralized, but a large proportion of managers is not necessarily indicative of decentralization of *decision making*. One might even argue that, on the contrary, the *smaller* the proportion of managers, the more likely will they be to delegate responsibilities to subordinates in order to lighten the burden of their duties.

STUDY OF GOVERNMENT FINANCE DEPARTMENTS

A study of 254 finance departments of state and local governments made it possible to test the hypothesis that staff expertness leads to decentralization of responsibilities, and further to explore the conditions that influence the structure of authority in organizations. Original data were collected for the purpose of this study by N.O.R.C. interviewers from informants (senior managers) in the major finance department of each government. The universe consists of the departments in all states, all counties with a population of more than 100,000, and all cities with a population of more than 50,000, in the United States, except those with a staff of fewer than twenty or with no subdivision of responsibilities into two or more units.[17] The sample comprises the entire universe, and information was obtained from 96.6 per cent of these organizations. Although responsibilities vary, nearly all departments maintain financial records and pre-audit disbursements, and the majority are also responsible for post-auditing other departments, investment management, and fixed-asset accounting. The median department has a staff of sixty, six major subdivisions, and four hierarchical levels.

A number of the questions raised by the conclusions of the earlier study can be

[16] Blau *et al.*, *op. cit.*, p. 190, Table 8. Among larger agencies with an expert staff, 60 per cent of those with a low but only 23 per cent of those with a high clerical ratio operate at high cost, whereas in larger agencies *without* an expert staff, high cost is as unlikely with a low (24 per cent) as with a high clerical ratio (35 per cent).

[17] Data on these smaller departments were also obtained, in this case by mail questionnaire, but they are not included in the present analysis.

answered by this research. Another type of government agency has now been investigated, making it possible to check whether the previous findings merely reflect some special conditions in personnel work. The organizations under examination are larger, with a minimum size of twenty instead of five and a median of sixty instead of seventeen, and a larger number of cases is available for analysis, increasing the reliability of findings. Of greatest importance is the fact that a variety of measures of the structure of authority were deliberately designed to permit refinement of the earlier inferences. Information was obtained on the proportion of managerial personnel, specifically defined as all officials with supervisory duties; the number of levels in the hierarchy (the mean for the various divisions); the average span of control—number of subordinates—of first-line supervisors and that of middle managers; the proportion of their time managers spend on supervision; and the hierarchical level on which various specified decisions are made, furnishing direct indications of delegation of responsibilities and decentralization of authority. The index of expert requirements is the proportion of the staff expected to have a college degree, roughly parallel to the index used in the other study,[18] and departments are dichotomized on the basis of whether at least one-fifth of the total personnel (which is about two-fifths of the non-clerical personnel) is expected to meet the requirement of college graduation.

The basic finding reported from the study of public personnel agencies is confirmed by this research on another type of government agency; a high ratio of managerial personnel is more often found in finance departments with a large proportion of college-trained experts than in those with comparatively few employees so qualified (Table 1, row 1).[19] The more extensive data of the second study make it possible to stipulate the structural implications of the higher ratio of managers in organizations with many experts. The employment of an expert staff seems to give rise to vertical differentiation, increasing the number of managerial levels in the organization. The number of hierarchical levels tends to be larger in departments requiring of its personnel relatively high educational qualifications than in those with lower requirements (row 2). The span of control of first-line supervisors is, on the average, somewhat narrower if the staff has superior qualifications than if it does not (row 3).[20] The span of control of middle managers (those between the top executive and first-line supervisors) is, by contrast, wider in agencies with well-trained personnel than in others (row 4). But these middle managers have many fewer subordinates in any case, averaging less than two, than first-line supervisors, whose median is six subordinates. Managers have typically broader responsibilities than operating officials, and very few managers report to a single superior; expert qualifications presumably broaden the responsibilities of operating employees, which is reflected in a parallel reduction in the number reporting to a single supervisor. This consistent inverse association between scope of responsibilities and width of span of control clearly indicates that a narrow span of control must not be assumed to be indicative of closeness of supervision.[21]

[18] Although the number required to have a college degree in accounting was ascertained as well, which would furnish an index exactly parallel to that used in the previous study, this number was so low (an average of one-tenth of the staff) that the less stringent requirement—college degree whatever the major—is considered to be the preferable index of staff expertness.

[19] The implicit assumption that proportion of managers is inversely associated with span of control over the operating level is strongly supported by the data. The proportion of departments in which first-line supervisors average six or more subordinates is 72 per cent in the 151 with a managerial ratio of less than one-quarter and 20 per cent in the 102 with a higher managerial ratio.

[20] A parallel result, showing complexity of task to be inversely related to width of span of control, is presented in Gerald D Bell, "Determinants of Span of Control," *American Journal of Sociology*, LXXIII (1967), 100–109.

[21] Bell has some direct evidence on closeness of supervision, which shows it to be unrelated to span of control (*ibid.*, p. 106).

The utilization of employees with superior qualifications raises the proportion of managers in an organization, apparently because it tends to increase the number of managerial levels and decrease the span of control of first-line supervisors without decreasing that of higher managers. The question arises how the extra managerial manpower is utilized in departments with a highly qualified staff. The time estimates of informants permit tentative answers to this question. If much of the staff is college trained, managers are less likely to spend most of their time in actual supervision than if it is not (Table 1, row 5, based on the mean for all managers), and this is the case for first-line supervisors as well as higher managers. The finding that superiors of experts devote comparatively little time to actually supervising them helps to explain why their narrow span of control does not imply close supervision. Managers in departments with highly qualified personnel seem to spend more time than other managers on professional work of their own which keeps them in touch with the problems encountered by the operating level.[22] Such greater involvement in actual operations on the part of managers of an expert staff, compared to other managers, may well improve their qualifications to discuss technical problems of the work with their subordinates and thus to take full advantage of the greater opportunities for communication that the smaller numbers of subordinates per superior create.

TABLE 1

TRAINING REQUIREMENTS AND AUTHORITY STRUCTURE

Percentage of Finance Departments in Cols. (1) and (2) in Which	Proportion of Staff Required To Have B.A.*		Yule's Q (Gamma)
	Low (1)	High (2)	(3)
1. The proportion of managers exceeds one quarter of the total personnel	35 (147)	48 (106)	27
2. The number of levels is four or more	36 (148)	51 (106)	29
3. The mean span of control of first line supervisors is six or more	56 (147)	44 (106)	−23†
4. The mean span of control of middle managers is 1.6 or more	38 (135)	54 (100)	32
5. The average manager spends more than two fifths of his time supervising	52 (145)	38 (106)	−29
6. Division heads make budgeting or accounting decisions	40 (122)	54 (86)	26†
7. An official below the director recommends promotions and dismissals	30 (147)	45 (104)	32

* Since this variable is not associated with size, it is not necessary to control size.

† All relationships are significant below the .05 level except these two, which are significant on the .08 and .06 levels, respectively.

The question of prime interest is whether the hypothesis that expertness promotes decentralization, which rested merely on

[22] One might think that the finding could also be interpreted to show that departments with many experts have more complex responsibilities and their managers devote more time to planning and administration, but the instructions were that such activities be included under supervision, and virtually the only activity excluded, except for top executives, would be work of one's own.

inferential conjecture, is confirmed by the directly pertinent data from finance departments. This is in fact the case. Responsibilities of various kinds tend to be delegated by management to lower levels in agencies where the staff has relatively high qualifications. Thus budgeting and accounting decisions are more likely to be made by division heads rather than the department director himself if the staff includes many college-trained men than if it includes few (Table 1, row 6). The likelihood that an official below the top executive recommends promotions and dismissals is also greater in agencies with many experts than in others (row 7). Parallel relationships with expertness, though they are somewhat less pronounced, are revealed by other indications of decentralization of responsibilities, such as the top executive's policy to let his division heads make most decisions, and the fact that first-line supervisors, not higher officials, formally evaluate the performance of non-supervisory employees. In sum, managerial authority over decision making appears indeed to be more decentralized in organizations with large proportions of trained experts than in others.

MULTILEVEL HIERARCHIES

The finding that superior qualifications of the personnel in government agencies encourage delegation of responsibilities is not surprising. But what is unexpected is that such superior qualifications are also associated with vertical differentiation into multilevel hierarchies. It is generally assumed that the proliferation of hierarchical levels in organizations is a sign of overbureaucratization and an impediment to rational operations, and the results of Udy's study of primitive production organizations point to this conclusion,[23] whereas the opposite is implied by the association obtained here between levels and training requirements, since superior training undoubtedly entails more rational decision making. The question arises of what conditions in contemporary American agencies promote hierarchical differentiation.

A multilevel hierarchy is associated with several basic characteristics of finance departments. (1) The number of levels increases with increasing size, that is, the number of employees (Pearsonian zero-order correlation, .51[24]). (2) Although the zero-order correlation between number of levels and number of major subdivisions[25] is virtually zero (—.05), there is an inverse association between the two when size is controlled (—.34). (3) The wider the average span of control of middle managers, the larger is the number of levels in the hierarchy (.27). (4) Automation in the form of computers is associated with multiple levels (.34). (5) Explicit written promotion regulations encourage hierarchical differentiation (.22). (6) The number of levels increases the more weight written examinations have for promotions (.24), and it decreases the more weight seniority (—.22) and supervisory evaluations (—.16) have for promotions.[26] (7) Decentralization of responsibility for promotions and dismissals is correlated with multiple levels (.18). (8) The larger the proportion of employees required to have college degrees, finally, the larger the number of levels (.16).

Since so many factors are associated with hierarchical levels, partial correlations were computed between each of the eight and number of levels holding constant the other seven. The results of this analysis, which provide the basis for the further discussion, are presented in Table 2. The multiple correlation between all eight factors and levels

[23] Udy, *loc. cit.*

[24] Regression analysis is used here, partly because the number of levels is a genuine continuous variable and so are most independent variables, and particularly because this procedure makes it possible to examine partial associations while holding all seven other correlates constant.

[25] The criterion of "major subdivision" is a division whose head reports directly to the department director (or his deputy, if he has a single deputy).

[26] Only the weight of written promotion examinations is considered in the subsequent analysis, since the two other factors are complementary to it.

is .65. These characteristics of finance departments explain 43 per cent of the variance in hierarchical levels, with most of the difference being due to three factors—size, divisions, and automation.

Some reflections on the considerations that probably influence the decision to add new levels in the hierarchy can serve as a starting point for interpreting these associations. As an organization expands in size and complexity, it is likely that additional major divisions are established, which increases the number of officials directly responsible to the department director and overburdens him with supervisory responsibilities. To lighten this administrative load of the top executive and free him to devote more time to his primary executive functions, a few assistant directors may be installed on a new level to whom the division directors report and who in turn report to the director, just as the creation of the U.S. Secretary of Health, Education, and Welfare constituted an intermediate level between the President and officials who formerly reported directly to him. The introduction of such a new level of assistant directors would account for the inverse association observed between levels and major subdivisions because the few "superdivisions" headed by the assistant directors, not the former divisions, would now be defined as the "major subdivisions" by the criterion used. This change would also help to explain why number of levels and span of control of middle managers, which includes assistant directors, are correlated without controls (.27) but are no longer significantly related once size, subdivisions, and other conditions are controlled (.11). The assumptions here are that the assistant directors, whose establishment increases levels, have a particularly wide span of control—hence the zero-order correlation—but that the introduction of this new level occurs usually in large agencies and reduces the number of major subdivisions—hence the considerably lower correlation under these controls.

TABLE 2

CORRELATIONS WITH NUMBER OF LEVELS IN THE HIERARCHY

Independent Variable	Zero-Order Correlation	Partial Correlation	Standardized B[a]	Regression Error	Data on Employment Agencies Zero-Order Correlation
1. Number of employees	51	50	53	06	60
2. Number of major divisions	– 05	– 32	– 30	06	19
3. Span of control of middle managers	27	11	00	05	31
4. Automation (computers)[a]	34	23	19	05	53
5. Explicit promotion regulations[a]	22	04	– 03	06	33
6. Weight of examinations in promotions	24	13	12	06	[b]
7. Decentralization of promotion decisions[a]	18	12	00	05	19
8. Proportion of staff required to have B.A.	16	03	02	05	– 00

[a] These three factors are dichotomous and were used as dummy variables in the regression analysis. All others are continuous variables except weight of examinations, which was coded in four categories.

[b] No corresponding variable is available for the employment security study.

Differentiation into a multilevel hierarchy has evident advantages for expanding organizations, according to these conjectures. In fact the number of levels in finance departments increases with increasing size, as previously noted; so does the number of major subdivisions, however (the zero-order correlation between size and subdivisions being .43, nearly as large as that between size and levels, .51). Not all large agencies have many levels and few major divisions. The inverse association between levels and subdivisions when size is

controlled implies the existence of two contrasting departmental structures, one that is primarily differentiated horizontally into many major divisions and one that is primarily differentiated vertically into many levels. The question is what conditions discourage horizontal differentiation—which places an excessive administrative burden on top management—and encourage vertical differentiation instead.

The clue for answering this question is provided by the other major correlate of number of levels, namely, automation, which reveals a substantial association with it (.34) that persists when other conditions are controlled (.23). Although extending the hierarchy has administrative advantages for the top executive of a large organization, it also removes him increasingly from the operating level and makes it difficult for him directly to control operations and keep tight reins on them. This loss of close contact with the operating level is a serious disadvantage for a director who relies largely on direct supervision for control, but it is not such a disadvantage if top management has instituted indirect mechanisms of control and can exercise with their aid sufficient influence on operations by setting policies and formulating programs. The automation of accounting procedures through computers is just such an impersonal mechanism of control in finance departments. It places much controlling influence over operations into the hands of the top executives whose decisions determine the over-all setup of the automated facilities and the nature of the computer programs, thereby obviating the need for much direct supervision. The assembly line serves similar functions in factories.[27] Since automation serves as a control mechanism that greatly reduces the main disadvantage of multilevel hierarchies, it furthers their development.[28]

The general principle suggested is that conditions in organizations that make the reliable performance of duties relatively independent of direct intervention by top management further the development of multilevel hierarchies. Advanced technological equipment, inasmuch as it mechanizes operations and makes them to some degree self-regulating, often serves this function. The mechanization of facilities is not the only condition that affects the reliability of performance, however. Regardless of how automated operations are, top management must rely on its managerial staff to implement its objectives and administer its policies. Herein lies the significance of promotion procedures for the hierarchy. Explicit promotion regulations furnish uniform standards that all higher officials must have met. But these standards assure top management that higher officials will have adequate qualifications for their responsibilities only if they stipulate that promotions be based primarily on examinations designed to test these qualifications rather than on seniority or the possibly idiosyncratic evaluations of supervisors. A significant correlation between the weight of written examinations in promotions and number of levels remains when other conditions are controlled (.13), but the correlation between the existence of promotion regulations and levels disappears when the weight of examinations and other conditions are controlled (.04). The reason probably is that only promotion regulations that give merit examinations much weight guarantee that all managerial officials have certain minimum qualifications and thus reduce top management's reluctance to lose direct contact with the operating level by establishing intervening layers in the hierarchy.

The more top management trusts the middle managers who constitute its administrative arm to discharge their responsibilities in accordance with its guidelines

[27] Blau and Scott, *op. cit.*, pp. 176-78.

[28] It is also possible that the causal direction is the opposite from that assumed above, which would mean that agencies with multiple levels are more likely than others to introduce automation, quite possibly because they benefit particularly from its function as a control mechanism.

and directives, the more inclined it will be in all likelihood to delegate responsibilities to them. The implication is that the degree of confidence top executives place in their managerial assistance will promote decentralization of authority as well as multilevel hierarchies. If this surmise is correct, it could explain why the zero-order correlation between number of levels and decentralization (.18) is reduced to a point that falls just short of significance at .05 when other conditions that affect management's trust are controlled (.12).

Entrance requirements that demand comparatively high qualifications of employees undoubtedly improve their abilities to perform their duties without close supervision. The interpretation advanced implies, therefore, that the proportion of the agency personnel expected to have college degrees and the number of levels in the hierarchy are positively related. As a matter of fact, such a positive zero-order correlation has been observed (.16), but controlling other conditions reduces this correlation to the vanishing point (.03). The proportion of employees with college training is not strongly associated with any of the other control variables under consideration, but it is somewhat correlated with four of them (between .12 and .14), its most pronounced zero-order correlation being that with decentralization (.14). A plausible explanation of this pattern of findings can be derived if expert qualifications are viewed as simply one element in a configuration of of conditions indicative of operations that are relatively self-regulating and independent of direct intervention by management. As part of this configuration, the qualifications of employees are associated with the development of multilevel hierarchies. But once the other factors that manifest independence of managerial intervention are controlled, including those to which expert qualifications directly contribute, such as decentralization, the entire significance of qualifications for the hierarchy has been taken into account, and they are no longer associated with the number of levels.

TWO CONTRASTING TYPES

In conclusion, some inferences about two contrasting types of formal organization will be drawn from the associations with multilevel hierarchy observed. One of these types may be considered the modern organization governed by universalistic standards; the other represents the old-fashioned bureaucracy.

A fundamental issue confronting the executives of organizations is whether to manage primarily by means of direct or indirect controls. Management through direct controls entails keeping in close touch with operations and issuing corrective orders whenever necessary. Management through indirect controls involves devising impersonal control mechanisms that constrain operations to follow automatically the policies and programs specified by top executives. The substitution of indirect mechanisms of control for direct control requires that an orientation to abstract universalistic standards replace reliance on personal judgments. The development of these impersonal control mechanisms is most likely if technical considerations and effective performance are supreme values, whereas ideological commitments and particularistic solidarities have little significance.[20]

Today the prototype of an impersonal control mechanism is the computer, which dramatically illustrates how technological facilities automate operations and simultaneously give top management—whose decisions govern the basic computer setup—much control over them without requiring frequent direct intervention. Not only the operations themselves but also the recruitment of employees and that of the managerial staff tend to become standardized in the modern organization in terms of universalistic principles of effective performance. Explicit personnel regulations stipulate merit criteria for employment and

[20] It is evident that this orientation is inappropriate for certain kinds of organizations, such as religious congregations or ideological political parties.

for advancement to managerial positions, relieving top management of administrative tasks, lessening the influence of personal bias and variations in judgment over personnel decisions, and assuring minimum qualifications. Both the automation of the work process and the merit standards that the managerial and operating staff must meet contribute to the reliable performance of duties and help to make operations comparatively self-regulating within the framework of the organization's objectives and management's policies. These conditions reduce management's need to keep close direct control over operations and, consequently, often give rise to major changes in the hierarchy. To wit, vertical differentiation creates a multilevel hierarchy, which usually decreases the number of major divisions whose heads report to the agency director and increases the span of control of these division heads, and responsibilities become decentralized. The strongest pressure to institute impersonal mechanisms of control, and thus the conditions that facilitate these structural changes, comes from the expanding size of organizations.

In short, the modern organization is characterized by a tall, slim hierarchy with decentralized authority. The opposite type, which may be called an old-fashioned bureaucracy, has a squat hierarchy with authority centralized at the top. In this case, which is most prevalent in smaller organizations, the top executive maintains tight control over operations by directly supervising many division heads, assigning each of them only few subordinates, refraining from introducing intermediate levels that would increase his distance from the operating personnel, and delegating few responsibilities. The lesser interest in impersonal mechanisms of control under these circumstances is reflected in the rare instances of automation and in the nature of the personnel policies. Explicit regulations that specify personnel qualifications are infrequent; promotions are largely left under the discretion of management; and insofar as promotion standards do exist, they tend to give weight to seniority and personal judgments of superiors rather than objective merit criteria, thus implicitly placing the importance of loyalty above that of technical competence.

A final question to be raised is whether these conclusions concerning two contrasting types of formal structure apply to all work organizations (those employing people to perform tasks), or only to government agencies, or perhaps only to government finance departments. The methodological point made in the introduction bears repeating in this connection: generalizing beyond the data is necessary for scientific cumulation because such generalizing supplies the sole connection between different empirical studies. The finding that multilevel finance departments in the United States have fewer major divisions than others of the same size, for example, can neither be negated nor confirmed by research on other organizations, for the association between levels and divisions in another type of agency simply has no direct bearing on it. Only if the investigator is willing to advance generalizations that refer to broader concepts than his empirical data—all work organizations or vertical differentiation of any kind—is it possible to replicate or refute his conclusions and ultimately to develop a scientific theory.

Hence the empirical findings from the study of finance departments are deliberately used to suggest tentative principles about work organizations in general, to be tested and appropriately modified in future research, just as the inferences drawn in our earlier study were tested and refined this one. Some indication that the conclusions about hierarchical structure are at least not restricted to finance departments is provided by a preliminary analysis of data on quite another type of government agency. The state employment security agencies in this country are large roof organizations, each consisting of a state headquarters and an average of forty local offices dispersed

throughout the state, and their median size is more than ten times that of finance departments. Despite these differences, most of the factors associated with multiple levels in finance departments reveal similar zero-order correlations in state employment agencies, even though several of the measures are far from identical (compare the last with the first column in Table 2). Controlling size tends to increase the similarity; for instance, number of divisions and number of levels are inversely correlated when size (after logarithmic transformation) is controlled in employment security agencies (— .37), as they are in finance departments (— .34).

These parallels lend some credibility to the claim that the propositions about hierarchical differentiation suggested in this paper are fairly general principles about work organizations, or in any case about the government agencies among them, though further research will undoubtedly call for revisions and refinements. The tentative conclusion is that impersonal mechanisms of control, such as automation and merit personnel standards, help transform flat structures in which the chief executive exercises much personal control into multilevel hierarchies with decentralized authority.

University of Chicago

Technological Innovation and Theoretical Functions of Primary Groups and Bureaucratic Structures[1]

Eugene Litwak
(With Assistance from Josefina Figueira)

ABSTRACT

Bureaucratic structures are ideally suited to deal with problems requiring technical knowledge or large-scale capital investments. Primary group structures are most able to handle problems requiring little technical knowledge, for example, where knowledge is so simple the ordinary person can do it as well as the expert, where knowledge is lacking so experts cannot be trained, where knowledge is so complex it cannot be put together in time to make a decision. In principle, technology is as likely to take tasks now handled by experts and simplify them so the ordinary person can deal with them as it is to take tasks now handled by ordinary individuals and show how they can be more effectively handled by experts. Therefore, in principle, technology is not likely, after its first stage, to reduce functions of either the primary group or the bureaucracy. More characteristic will be stress on continuous change.

I. ALTERNATIVE THEORIES OF PRIMARY GROUP AND BUREAUCRATIC FUNCTIONS

This paper seeks to develop a theory of primary group and bureaucratic functions as well as to indicate in what way they might be affected by the development of science and technology. The need for developing such a theory has become obvious as evidence piles up that prior theories do not account for the empirical data. To develop this theory, we shall start out with two polar extreme types of organizations—the monocratic bureaucracy described by Weber and the primary group as formulated by Cooley. However, once the logic has been developed by use of these "pure" types, we shall show how this can be extended to analyze the continuum of organizations lying between these two extremes as well as deal with organizations, such as closed institutions, which must of necessity incorporate both types of groups. The traditional point of view on primary group and bureaucratic functions was perhaps most clearly stated by Weber when he noted that in a mass industrial society the bureaucratic organization was the most effective for accomplishing most goals.[2] Implicit in such a formulation was the idea that bureaucracies and primary groups had overlapping goals; and where one was more effective than the other, the alternative would likely be eliminated. This line of reasoning was severely questioned by two kinds of empirical trends. First, it was found that, within the very boundaries of the bureaucratic organizations, primary group-type ties flourished.[3] Second, there

[1] Part of this paper was delivered at the Faculty Seminar at Boston College, sponsored and partly financed by the Institute of Human Science. It is in part the result of research being financed by the United States Office of Education project 5-0355, OEC 3-10-033. However, neither of these organizations is responsible for the views presented herein.

[2] H. H. Gerth and C. Wright Mills (trans. and ed.), *From Max Weber: Essays in Sociology* (New York: Oxford University Press, 1946), pp. 196-244; Karl Mannheim, *Man and Society*, trans. Edward Shils (London: Kegan Paul, Trench, Trubner & Co., 1942), p. 321.

[3] For instance, the development of primary-type groups in the factory was first noted in the studies in Western Electric: F. J. Roethlisberger and W. J. Dickson, *Management and the Worker* (Cambridge, Mass.: Harvard University Press, 1949). In the Army it is well illustrated by E. Shils and M. Janowitz, "Cohesion and Disintegration in the

was evidence that primary groups in the community play vital roles in many areas of life.[4] Those seeking to maintain this traditional point of view could make two counter-arguments. First, such a theory speaks about a trend. The current viability of the primary group may be vestigial remains and does not contradict the view that in the long run it will disappear. Second, the traditional theory speaks about optimal states of effectiveness. It does not say such optimal states will inevitably arise. The proliferation of primary groups in current society is only evidence that we are not operating at optimal effectiveness. Like many issues in science, the empirical evidence by itself is not sufficient to question a given theory. In addition, it is necessary to have an alternative explanation which can better account for the evidence.

One such alternative was suggested by Parsons. He argued that one type of primary group—the isolated nuclear one—was more effective than the bureaucracy for performing several types of tasks, that is, early socialization of the child and tension management of adults. This primary group was in principle more effective than the bureaucracy because both of these activities called for effective and non-instrumental relations between individuals. Such relations by definition could not be part of the bureaucracy but only of the primary group.[5] In addition, the task of early socialization and tension management was necessary to the survival of any society so that where an industrial society survived it must in addition have a strong form of the isolated nuclear family.

The alternative explanation offered by Parsons also failed to account for the empirical data. For the evidence was that the primary groups were active in all areas of life, not just tension management and early socialization, and primary groups other than the isolated nuclear family were important, for example, extended kin, neighbors, peer groups, friendship groups, work groups, etc.[6] Furthermore, evidence mounts

Wehrmacht in World War II," in D Katz *et al* (eds), *Public Opinion and Propaganda* (New York: Dryden Press, 1954), pp. 553-82. The same developments have been noted in prisons and hospitals where people speak about the swing from custodial to therapeutic milieus (see, e g., D A Hamburg, "Therapeutic Aspects of Communication and Administrative Policy in the Psychiatric Section of a General Hospital," in Milton Greenblatt *et al*, *The Patient and the Mental Hospital* [Glencoe, Ill . Free Press, 1957], pp. 91-107).

[4] We have already mentioned the factory, the Army, and the hospital above. In addition, there is political behavior as well as the spread of mass media. See E. Katz and P. F. Lazarsfeld, *Personal Influence* (Glencoe, Ill . Free Press, 1955), pp. 31-43. On delinquency, see S. Kobrin, "The Conflict of Values in Delinquency Areas," in H. Stein and R Cloward (eds.), *Social Perspective on Behavior* (Glencoe, Ill : Free Press, 1959), pp 498-504. In the diffusion of information on new drugs among physicians, see J. Coleman, E. Katz, and H Menzel, "The Diffusion of an Innovation among Physicians," *Sociometry*, XXI (December, 1957), 253-69. On people seeking help from social work agencies, see D. Landy, "Problems of the Person Seeking Help in Our Culture," *Social Welfare Forum* (New York: National Conference on Social Welfare, 1960). No attempt is made to cover all possible fields but just to indicate the wide variety of areas where primary group type of relations seem to play a role.

[5] T Parsons and R F. Bales, *Family, Socialization, and Interaction Process* (Glencoe Ill Free Press, 1955), pp. 9-10, 16-19 The dimensions of bureaucracy are those suggested by Weber (M. Weber "The Essentials of Bureaucracy Organization," in H D Stein and R. A Cloward (eds), *Social Perspectives on Behavior* [Glencoe, Ill Free Press, 1959], pp 255-62) The dimensions of the primary group are those suggested by Cooley (C H Cooley, "Primary Groups," in P Hare, E F Borgatta, and R F Bales (eds) *Small Groups* [New York. Alfred A Knopf, Inc., 1955], pp 15-17).

[6] For the role of the extended kin, see M Sussman and L Burchinal, "Parental Aid to Married Children, Implications for Family Functioning," *Marriage and Family Living*, XXV (November, 1962), 320-30 For the role of neighborhoods, see A J Reiss and A L. Rhodes, "The Distribution of Juvenile Delinquency in the Social Class Structure," *American Sociological Review*, Vol XXVI (October, 1961); or Morton Deutsch and M E Collins, *Inter-racial Housing* (Minneapolis University of Minnesota Press, 1951), pp. 64-71. For peer group influence, see J S Coleman, *The Adolescent Society* (New York: Free Press, 1961), pp. 1-57; or Alan B. Wilson, "Social Stratification

that bureaucratic organizations take an increasing role in tension management and early socialization of the child.[7] Again, in defense of Parsons' analysis, it could be argued that he was speaking about a trend and assuming states of optimal effectiveness. There is no reason, however, to assume that current society is at the optimal state of effectiveness or even seeks such a goal.

Still a third effort to account for primary group effectiveness emerged from the literature on mass media. Here the investigators were seeking to explain the fact that family, friends, and neighbors seem to play a key role in blocking or accelerating mass media.[8] Without concerning themselves about the larger theoretical issues of primary groups, the investigators in fact argued that such typical dimensions of primary groups as face-to-face, affective, and diffused relations provided a communicator with faster feedback and many more alternative ways of insuring that the message would be heard and obeyed. As a consequence, they argued that such primary group-type relations were speedier and more flexible than the mass media. Although they did not do so, it would be possible to generalize their comments to bureaucracies other than the mass media. Later, in a more general attempt to understand the import of the primary group, they argued that the primary group provides direct or instrumental forms of reality.[9] It is only necessary to cite several illustrations to indicate the limits to the idea that primary group relations seem speedier and more flexible than bureaucratic ones. Thus, a doctor who has a patient with a heart condition in an intensive care room is able to react much more quickly and flexibly to the problem of heart failure than can the family member. To argue that the primary groups have instrumental and direct reality functions is not to deny this to the bureaucratic organizations as well. Thus, the speed with which the Russian juggernaut put down the Hungarian rebellion, or the capacity for a small elite with the help of a bureaucracy to reshape basic values and behavior of large masses of people, such as seems to have occurred in the Russian and Chinese Communist revolutions, would argue for the obvious capacity of bureaucratic organizations to utilize direct and instrumental reality.

II. ALTERNATIVE THEORY OF ORGANIZATIONAL FUNCTIONS

To develop an alternative theory which might more completely explain the data on primary groups, it is instructive to see where its polar opposite, the monocratic

and Academic Achievement," in A. H. Passow (ed.), *Education in Depressed Areas* (New York: Teachers College, Columbia University, 1964), pp. 227–28. For one interesting attempt to look at friendship cliques, see C. Kadushin, "The Friends and Supporters of Psychotherapy: On Social Circles in Urban Life," *American Sociological Review*, XXXI (December, 1966), 786–802, as well as the Coleman *et al.* study, *op. cit.*; the development of primary work groups has been discussed in n. 3 above.

[7] Without providing systematic evidence, there is a certain face validity of such a statement in the field of tension management if one considers the growth of the therapeutic professions, social workers, psychiatrists, clinical psychologists, psychiatric nurses, marriage counselors, occupational counselors, occupational therapists, etc. Similarly, in the area of early socialization, it has been pointed out that fads and fashions in breast feeding, early toilet training of the child, type of discipline, age when child is given responsibility, etc., is very much influenced by experts via their books, via classes set up for new mothers, and so on. In addition, the development of professionals and industries especially tuned to the young child give further evidence of the increasing role of formal organizations in this area, e.g., nursery schools and nursery school teachers, pediatricians, clothing manufacturers, diaper services, shoe manufacturers, toy manufacturers, publishing firms, new teaching devices, etc. Such developments would suggest that in the long run the areas of early socialization and tension management might follow the same pattern of development of other areas of life.

[8] P. F. Lazarsfeld, B. Berelson, and H. Gaudet, *The People's Choice* (New York: Dryden Press, 1944), pp. 153 ff.

[9] Katz and Lazarsfeld, *op. cit.*, pp. 48–65.

bureaucracy, has failed. Critics of this type of bureaucracy have suggested that it is ineffective where the task to be dealt with is widespread and idiosyncratic or consists largely of the unknown.[10] It is pointed out under such circumstances that rules cannot be laid out ahead of time. If that is attempted, the number of rules proliferate to the point where it is virtually impossible to catalogue and use them. On the other hand, if rules are not used and such decisions are referred to higher authority, the channels of communication become so clogged that decisions cannot be made in time to be effective. If both of these alternatives are ignored, then the lower-echelon employees will utilize inappropriate rules or insert their own values.[11] The critics of Weber's monocratic bureaucracy have argued that in such situations the most effective organizational solution is one which has variously been called collegial, therapeutic, human relations, goal oriented, or democratic organizations. What is most important about these last types of organizations is that they all approach the dimensions of the primary group, that is, stress face-to face decentralized decision making, move from specialist to generalist, stress the need to develop positive affect rather than impersonal relations, as well as the need to develop a non-instrumental attitude toward peers.[12] If this analysis were extended, it would seem to suggest that in extreme situations of non uniformity the primary group might be more effective than even the most collegial bureaucracies. Put somewhat differently, what such an analysis suggests is that the more predictable the event, the more trained experts and concentrated resources can be used to solve problems, then the more the monocratic end of the organizational continuum provides an ideal base for problem solving. In contrast, the more unpredictable the event, the greater the ignorance, the less helpful the trained expert, then the better the primary group pole of the organizational continuum is for providing a base for solving the problem.

The underlying logic of this argument can best be seen if the structures of the polar extremes of the organizational continuum—monocratic bureaucracy and the primary group—are scrutinized in detail. If this is done, it can be argued that the very structure of the bureaucracy guarantees that it will provide a superior base for the employment of trained experts and concentrated resources, while the primary group guarantees the opposite. For instance, the monocratic bureaucracy has as its requirement[13] that appointment be on the basis of merit—the most knowledgeable people are hired and promoted. Furthermore, specialization insures that training will be honed through practice to its highest degree. Rules insure that the large mass of experts will be at the right time and the right place with minimum need for decision making. Hierarchy insures that for the small number of cases not covered by rules there will be a decision-making process that will guarantee the same degree of co-ordination. The demands for impersonal relations and a priori specification of duties and privileges insures that individuals will concentrate on the goals of the organization, rather than using the organization to pursue their own goals. Finally, the size of the organization guarantees sufficient human resources and capital expenditures so that major equipment, not affordable by the ordinary primary groups, can be used to

[10] What follows is a combination of the following critics J Franklin, "Bureaucracy and Freedom," *Man in Contemporary Society* (New York Columbia University Press, 1955), I, 941-42, P M Blau, *Bureaucracy in Modern Society* (New York Random House, 1956), pp 58, 62, R K Merton "Bureaucratic Structure and Personality," in R K Merton *et al*, *Reader in Bureaucracy* (Glencoe, Ill. Free Press, 1952).

[11] P Selanick, *TVA and the Grass Roots* (Berkeley University of California Press, 1949), esp pp 259 ff.

[12] Hamburg, *op cit*, pp 91-107, as well as other items cited in n. 3.

[13] Weber, *op cit.*, pp 255-62

solve problems, that is, computers, assembly line machinery, etc.

By contrast, the primary group structure as suggested by Cooley[14] emphasizes permanent relations, which means that individuals cannot be removed if they are ineffective. The lack of merit is further reinforced by the non-instrumental orientation, that is, the existence of a primary group bond as an end in itself. The demand for face-to-face relations and diffused relations means that the group must be very small and that there is little opportunity or resources for specialization, that is, a small group dealing with many different problem areas. The stress on affective relations means that individual worth is given precedence over organizational tasks.

In short, it is quite clear that the bureaucratic organizations as compared to the primary groups have structural features which make them incomparably better for dealing with problems that require trained experts or concentrated resources. However, it is suggested herein that where trained expertise or concentrated resources are not essential to accomplishing goals, then the primary group provides a superior base. This is the real import of the prior attempts to explain primary group effectiveness. A re-examination of the two structures with this thought in mind will quickly illuminate the reasoning behind this last statement. If the primary group member and the bureaucrat have equal knowledge and resources, the bureaucracy has no advantage from appointments by merit or specialization. Quite the contrary, it loses something. It costs something to train experts. Where they are no better than the ordinary citizen, such costs detract from effectiveness. Furthermore, experts trained in areas where there is little knowledge frequently become impediments to progress and change. They develop vested job interests in the status quo.[15] Similarly, the use of rules and hierarchical authority where they are not superior to the ordinary individual involves a cost. We have already pointed out the cost in terms of slow or inappropriate decision making when dealing with idiosyncratic events.

By contrast, the structure of the primary groups takes on new meaning once it can be assumed that they are equated in knowledge with the bureaucratic organization. For, everything else being equal, the face-to-face relation of the primary group guaranteed the fastest form of feedback. This speed is further increased by the fact that primary group members are in continuous touch in many different areas of life (diffused relations). Again, everything else being equal, studies in communication suggest that positive affect and permanent relations improve the accuracy of communication. In a similar manner it can be argued that the primary group structure provides greater flexibility once knowledge and resources are held equal. For the primary group member, because of his face-to-face relation and legitimation of a wide range of life problems, can change decisions rapidly and include many contingencies. However, it should also be emphasized that speed of feedback may be a defect, not an advantage, when primary groups lack knowledge (i e , it can reinforce states of ignorance).

In short, where knowledge and resources can be equalized, the very defects of the primary groups become virtues, whereas the very virtues of the bureaucracy become defects. The logic of this point might be more clearly seen by two illustrations. If we again take the heart patient in an intensive care unit, it can be pointed out that to have speedy and flexible reactions it is necessary to have trained doctors and specialized machinery. They do much better than any ordinary primary group member can do within the confines of his primary group because trained expertise and specialized

[14] Cooley, *op. cit.*, pp. 15–17.

[15] For a discussion of some of the problems of premature specialization, see H. Wilensky and C. Lebeaux, *Industrial Society and Social Welfare* (New York: Russell Sage Foundation, 1958), pp. 235 44 and 247 65.

machinery add to the effectiveness of decision making. By contrast, making sure a young child is kept out of the path of automobiles is generally best handled by a primary group member, that is, neighbor or family. The job of observing and, if necessary, pulling the child off the street requires no real expertise beyond that which the ordinary citizen can handle. Furthermore, there is a high probability of a family member or neighbor being on the spot. Even if they are slightly less efficient than a policeman, the fact that the primary group member is on the spot is crucial, that is, speed of response is more important than slight differences in knowledge. Furthermore, if one sought to train specialists to watch over all children who might cross the street, it would likely lead to a greater number of deaths and injuries in other fields of life. The number of people needed for such jobs would surely draw off policemen, doctors, and nurses from their normal activities.

III AREAS OF PRIMARY GROUP FUNCTIONS

If this view on differential functions for primary groups and bureaucratic organizations is accepted, then the following queries become central: what, specifically, are the types of jobs that require little in the way of trained expertise or use of concentrated resources; how important are such jobs; and what will happen to them under the impact of science and technology?

A. SIMPLE JOBS

There are at least three major areas of human activities where trained experts have no great advantage over the primary group member. One area, already mentioned in our illustration, is that where the ordinary citizen can do the job almost as well as the expert. Thus, the dressing of children, feeding of children, cleaning the house, transporting oneself to friends' houses, buying clothes, going to work, taking aspirins for headaches, bandaging minor cuts, etc., are jobs the ordinary citizen can do with reasonable effectiveness. More generally, in short, there are innumerable kinds of everyday jobs which the primary group member can do almost as well as experts. Furthermore, they cover most areas of life and constitute a considerable part of any person's life. These activities can vary depending on the educational level and training of the citizenry of a given nation.

It is true that sometimes the family members fail to do these jobs well, and experts have to be brought in to help. However, in such instances it would be hypothesized that the job of the expert is to build up the primary group and find substitute ones but not replace the primary group with a bureaucratic organization—the logic behind such a hypothesis being that, for tasks where trained experts are little better than the ordinary citizen, the primary group structure is a faster and more flexible decision process. To illustrate again, if an individual had to consult a doctor every time he took an aspirin for a headache, he would so pre-empt the time of doctors that they would have considerably less time for other medical duties. Alternatively the individual with the headache would have to wait an inordinately long period of time to get hold of a doctor. In either case, the insistence on a trained medical expert in such instances where the ordinary individual can make reasonably good judgments will in totality lead to much worse medical care.

B COMPLEX OR IDIOSYNCRATIC EVENTS

Still another area where experts cannot be used effectively is where the problem is so idiosyncratic or has so many contingencies that the expert's knowledge cannot be brought to bear in time to make a meaningful difference. For instance, people's lives are full of the following type of decision: should a young teen-age daughter be permitted to sleep at a friend's house, given the fact that the parents do not know the friend or her parents, given the fact that the teen-age daughter is lonely and needs a

friend, given the fact that this will cause trouble with a younger sibling who will then also want to sleep at a friend's house, given the fact that the teen-age daughter has been very helpful and deserves a reward, given the fact that the parents will be going out that evening as well, given the fact that it is a school night and homework must be done for the following day, and so forth. If the reader takes into account that such decisions are being made continuously and in every area of life, the problem of introducing experts becomes clear. For instance, to make full use of a psychiatrist in the above decision he would have to be apprised of all the details. Since such decisions are continuous and involve other children as well, it would mean that to make a decision based on complete knowledge the psychiatrist would have to be in the household practically twenty-four hours a day. Such a solution would quickly empty the populace of all psychiatrists and still not meet a fraction of the need. And we are considering only one area of life. In other words, trained experts must be reserved for problems where the clientele can, one way or the other, be limited. When experts are used for a mass audience, then they must be restricted to tasks where, for all practical purposes, the mass audience can be viewed as consisting of only one or two types of families. When they deal with complex decisions with many contingencies, they must restrict themselves to a small proportion of the population. What they cannot do is deal with complex problems which arise in a random way for most of the people. Under such circumstances, trained expertise is of little use because it cannot be brought to bear in time. As a consequence, these are the situations where the primary group structure provides the most effective base, that is, speed and flexibility of decision.

C. INCOMPLETE KNOWLEDGE

Yet another area where trained experts do not function well is that where knowledge is so limited that training provides n advantage to the experts. This is obviousl the case in areas such as child developmen where full-scale scientific investigation tha approaches the manpower efforts of th physical sciences has still to occur. As consequence, the child development expert have opened up many areas of inquiry fo which they have as yet no real, practica solutions.[16] The experienced mother ma be more effective for the everyday prob lems of rearing a child than the exper since in fact they raise their children equal ly well. It is also important to note, how ever, that all areas of inquiry have frontie fields where experts are at a loss. Therefore in most areas of life there is the possibilit that the primary group structure may be better decision-making base for one limite aspect of the problem than the bureaucrat ic organization.

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To summarize, there are at least thre areas where the trained expert, and there fore the monocratic bureaucracies, may not be so effective as the primary group struc ture for problem solving, that is, the task is so simple the ordinary citizen can do it as well as the expert, the task is so idiosyncratic or has so many contingencies that the expert cannot bring his knowledge to bear in time, and the task has so many unknowns that the expert cannot be trained to do any better than the ordinary citizen We shall henceforth refer to these three areas as "non-uniform" ones. However, the reader must remember we are not using this term in its customary way, so he must try to remember the three specific task areas. A second thing to note about these

[16] Most illustrative of this point is the work on the development of moral autonomy (see L. Kohlberg, "Development of Moral Character and Moral Ideology," in M. Hoffman and L. W. Hoffma [eds.], *Review of Child D[illegible] Resear* [New York: Russell Sage [illegible] 1964], esp. p. 423).

three areas is that they are very extensive and in principle can occur in any given area of life, that is, they are not restricted to two or three types of goals, such as early socialization or tension management. Nor can they be neatly split off from the activities of the bureaucracies, that is, there is no reason in principle why any given goal might not have both uniform and non-uniform aspects to it. As a consequence, if this theory of primary group structure is accepted, then it could follow that to optimize achievement of goals in many areas of life, one would need primary group and bureaucratic organizations working in close co-operation.

In the above discussion little has been said about the concentrated resources (e.g., capital goods) of bureaucracies. The reason is that the use of resources follows pretty much the logic developed for the use of trained experts. Thus, concentrated resources cannot deal with idiosyncratic problems that are randomly spread over most of the people. They are useful only where the population can be delimited, for example, the mass audience can be treated as one or two types, or a small element in the audience can be split off and dealt with as a unit. In addition, as we shall now detail, technology is as likely to put resources under the management of the primary group as the bureaucracy. Lest one think this is a trivial matter, Bertram Gross makes the eye popping estimate that in current society the family manages $70 billion worth of investments (houses, cars, washing machines, stoves, etc.), while all of industry has only $50 billion.[17]

IV. EFFECTS OF TECHNOLOGY ON UNIQUE FAMILY FUNCTIONS

If the above analysis is accepted, the next question which must be asked is: What will advancing science and technology do to the non-uniform tasks? More specifically, to what extent will technology illuminate areas of ignorance and supply a knowledge base that requires trained experts? Or to what extent will advancing technology cause tasks which now can be handled by the average individual to be solved more effectively by a trained expert? To what extent will technology permit complicated or unpredictable events to be put into a predictable format by trained experts? We can, within our own lifetime, find illustrations of technology being responsible for all of these developments.

A. ADVANCING TECHNOLOGY SUBSTITUTES TRAINED EXPERTS FOR THE AVERAGE CITIZEN

For instance, doing laundry illustrates how advancing technology permitted the development of a trained expert to replace the average person. Washing clothes in the days before laundries required only water, a scrubbing board, and much physical exertion. There was very little training needed. The technological development of laundry machinery provided a more efficient way for washing clothes. It also required specialist training, since the ordinary woman was not able to manufacture or run the machinery in the laundry.

B. ADVANCING TECHNOLOGY CLARIFIES AREAS OF IGNORANCE LEADING TO NEED FOR TRAINED EXPERTS

Similarly, it may be shown how technology has illuminated an area of erstwhile ignorance so that a trained expert is now required. This is most clearly seen in medical research. A breakthrough in scientific knowledge together with a related technological development such as the manufacture of vaccines has resulted in the experts (i.e., the doctor and the drug manufacturer) concerning themselves with problems of disease which in earlier times, when there was no known remedy, had been handled by the ordinary individual. Of course the same analysis could be made for the manufacturing of boats and work tools, the creation of buildings, etc.

[17] ...rtram Gross made this estimate in a private ...tion in March, 1967. It is based on his ...search.

friend, given the fact that this will cause trouble with a younger sibling who will then also want to sleep at a friend's house, given the fact that the teen-age daughter has been very helpful and deserves a reward, given the fact that the parents will be going out that evening as well, given the fact that it is a school night and homework must be done for the following day, and so forth. If the reader takes into account that such decisions are being made continuously and in every area of life, the problem of introducing experts becomes clear. For instance, to make full use of a psychiatrist in the above decision he would have to be apprised of all the details. Since such decisions are continuous and involve other children as well, it would mean that to make a decision based on complete knowledge the psychiatrist would have to be in the household practically twenty-four hours a day. Such a solution would quickly empty the populace of all psychiatrists and still not meet a fraction of the need. And we are considering only one area of life. In other words, trained experts must be reserved for problems where the clientele can, one way or the other, be limited. When experts are used for a mass audience, then they must be restricted to tasks where, for all practical purposes, the mass audience can be viewed as consisting of only one or two types of families. When they deal with complex decisions with many contingencies, they must restrict themselves to a small proportion of the population. What they cannot do is deal with complex problems which arise in a random way for most of the people. Under such circumstances, trained expertise is of little use because it cannot be brought to bear in time. As a consequence, these are the situations where the primary group structure provides the most effective base, that is, speed and flexibility of decision.

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three areas is that they are very extensive and in principle can occur in any given area of life, that is, they are not restricted to two or three types of goals, such as early socialization or tension management. Nor can they be neatly split off from the activities of the bureaucracies, that is, there is no reason in principle why any given goal might not have both uniform and non-uniform aspects to it. As a consequence, if this theory of primary group structure is accepted, then it could follow that to optimize achievement of goals in many areas of life, one would need primary group and bureaucratic organizations working in close co-operation.

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If the above analysis is accepted, the next question which must be asked is: What will advancing science and technology do to the non-uniform tasks? More specifically, to what extent will technology illuminate areas of ignorance and supply a knowledge base that requires trained experts? Or to what extent will advancing technology cause tasks which now can be handled by the average individual to be solved more effectively by a trained expert? To what extent will technology permit complicated or unpredictable events to be put into a predictable format by trained experts? We can, within our own lifetime, find illustrations of technology being responsible for all of these developments.

A. ADVANCING TECHNOLOGY SUBSTITUTES TRAINED EXPERTS FOR THE AVERAGE CITIZEN

For instance, doing laundry illustrates how advancing technology permitted the development of a trained expert to replace the average person. Washing clothes in the days before laundries required only water, a scrubbing board, and much physical exertion. There was very little training needed. The technological development of laundry machinery provided a more efficient way for washing clothes. It also required specialist training, since the ordinary woman was not able to manufacture or run the machinery in the laundry.

B. ADVANCING TECHNOLOGY CLARIFIES AREAS OF IGNORANCE LEADING TO NEED FOR TRAINED EXPERTS

Similarly, it may be shown how technology has illuminated an area of erstwhile ignorance so that a trained expert is now required. This is most clearly seen in medical research. A breakthrough in scientific knowledge together with a related technological development such as the manufacture of vaccines has resulted in the experts (i.e., the doctor and the drug manufacturer) concerning themselves with problems of disease which in earlier times, when there was no known remedy, had been handled by the ordinary individual. Of course, the same analysis could be made for the manufacturing of boats and work tools, the creation of buildings, etc.

[17] Bertram Gross made this estimate in a private conversation in March, 1967. It is based on his current research.

C. ADVANCING TECHNOLOGY TAKES A COMPLEX OR UNPREDICTABLE EVENT AND MAKES IT PREDICTABLE BY USE OF TRAINED EXPERTS

There are events whose separate elements are known but which are so complex that it is impossible to put them together in time to deal with a given problem. Thus, until very recently, the farmer looking at the sky was as good a predictor of the weather as the most highly trained meteorologist. The meteorologist knew what went into making the prediction but could not get all the facts together in time to be useful. However, with the development of high-speed computers, the use of rocket satellites and observation planes, and the use of the mass media, the trained professional has an increasing edge in predicting and disseminating information. Tornadoes and hurricanes can be tracked and populations frequently warned well in advance.

We have now illustrated three general cases where technological development has led to the replacement of the ordinary individual by trained experts. This particular stream of thought has been thoroughly identified and explored by most people in the area of family sociology. On the basis of this kind of reasoning, many have suggested that technology weakens the primary group and the family.[18]

However, it is not too difficult to state the opposite as well—that technology strengthens the family by returning functions to the family.[19] More specifically, it can be shown (1) that technology has simplified the jobs previously performed by experts so that they are within the skill level of the average person; (2) that in fields where experts had been considered competent to handle the job, there were large areas of ignorance where the average individual was as competent as the expert; and (3) that there are circumstances which are much more complex than previously believed, requiring the average person to take a hand, since the expert cannot put the information together fast enough to be the sole decision maker.

D. ADVANCING TECHNOLOGY SUBSTITUTES THE AVERAGE INDIVIDUAL FOR THE TRAINED EXPERT

For instance, there are many illustrations where technology has reduced the complexity of a job previously performed by a trained expert and turned it back to the average person. The history of laundering is again a case in point. The development of technology led to the home washing machine which was sufficiently simple to operate so that the ordinary housewife could participate in the laundering function. If we examine the advance from the scrubbing board to the laundry to the home washing machine, we see that advancing technology first turned over a function (which had been solely within the province of the family) to the formal organization and then ended up by making it a joint effort of the family and bureaucracy. This was in part because advancing technology altered the complexity of the job from simple to complex to partially simple and partially complex.

Perhaps what I am speaking about is best evidenced by the rash of do-it-yourself products in the United States for purposes which vary from putting boats together to painting houses. What is most central to the purpose of this paper and what the reader must keep in mind is that in principle there is no reason why technology in the future could not lead to simplification which would permit the average individual to participate in tasks which are now done solely by the trained expert. Thus, it is conceivable that technological advances

[18] This point is implicitly suggested in W. F. Ogburn, "The Changing Family," in R. F. Winch and R. McGinnis (eds.), *Selected Studies in Marriage and the Family* (New York: Henry Holt & Co., 1953); and also in W. F. Ogburn and M. F. Nimkoff, *Technology and the Changing Family* (Boston: Houghton Mifflin Co., 1955), especially pp. 123–43, 244–46, and 267–74.

[19] N. Foote and L. S. Cottrell, Jr., *Identity and Interpersonal Competence* (Chicago: University of Chicago Press, 1955), chap. i, pp. 29–33.

will permit the ordinary individual to fly his own airplane. It is possible that materials, patterns, and adhesives might be developed to allow each member of the family to design and put together his own clothes. It is within the realm of possibility that pills could be developed so that the average individual would be able to diagnose and treat any oncoming episode of mental illness in the same way he uses an aspirin to ease a headache.

There is nothing in the history of technology or in its future development which remotely suggests that technology will not simplify tasks and permit the participation of the average individual, just as there is nothing in the history of technology to eliminate the view that technology will permit discovery of more complex but more efficient ways of solving problems which only the trained expert can solve. What is, therefore, implied as a general principle, is that because of technology there will be continual change and fluctuation in those problems primary groups might most profitably seek to solve. This is in contrast to a principle which states that there will be monotonically increasing requirements for "trained" experts as technology advances. I would suggest that earlier sociologists concerned themselves with a historical phase of technological development during which the family proportionately lost control over many activities to the bureaucratic experts and projected to the future without perceiving the differences between the development phases and mature phases of a technological society.[20]

[20] In addition, it should be noted that some writers now believe that in many societies the families in the period preceding industrialization already had worked out sharing relationships with formal institutions. This is an implication made by C. M Arensberg, "The American Family in the Perspective of Other Cultures," in R. Winch, R McGinnis, and H. R. Barringer (eds.), *Selected Studies in Marriage and the Family* (rev. ed.; New York: Holt, Rinehart & Winston, 1962), pp 46–49, N. J Smelser, *Social Change in the Industrial Revolution* (Chicago: University of Chicago Press, 1959)

E. TECHNOLOGY EXPOSES AREAS OF IGNORANCE AS WELL AS REDUCES SUCH AREAS

While an advance in technology has helped to reduce complex problems to simple ones, it also has made it apparent that many problems which seemed to be within the scope of the expert are, in fact, beclouded by ignorance. Therefore, the ordinary individual may be able to deal with these problems as well as, if not better than, the expert. Perhaps the outstanding illustration of this point involves the technology of interpersonal relations, such as child rearing. At one time the theories of child rearing implied that the child was born with certain fixed instincts which more or less determined his behavior. The expert could intervene to measure these instincts. If the child did not behave, there was little the mother could do, since this was biologically determined. In severe cases the child could only be restrained, for example, sent to an institution where experts in custodial care with specialized facilities would deal with him. The development of a Freudian theory of personality as well as its modern derivatives suggested that the instinct theory was inadequate. These asserted that the parents and significant peer groups played a great role in developing the child's personality. Furthermore, these theories held that the affect of parents on the child, and vice versa, were not ones that the members of the interaction were aware of, nor could they easily be controlled. This theory opened up a Pandora's box, suggesting vast areas about which there was no adequate knowledge. Yet, the expert knows enough to realize that he is ignorant of many things which have an important bearing on how successfully the child will be reared. Because the experts do not have any standardized solutions as yet, they have made clear how important it is for the parent to observe the situation carefully. Thus, greater and greater emphasis is placed upon the responsibility of the mother and father in the early socialization process.

Another outstanding example is in the field of formal education. In the past it was assumed that children had a certain learning ability and all that was necessary was for an expert who knew the material to teach the child. However, recent investigations in education suggest that the child's motivation to learn is an important part of his ability to absorb information. Furthermore, the everyday continual encouragement and the inculcation of such motivations are necessary if the child is to be well educated (e.g., the developing and everyday reinforcing of achievement orientation, deferred gratification, multifactor thought processes, and disciplined study habits). These are areas in which the trained experts (i.e., the teachers) have little knowledge and, therefore, are in a worse position than the parents to carry out the everyday socialization of the child, since they do not have as much contact, as speedy feedback, or command the same trust. It is true that, should the family break down, the expert steps in, but his function is generally to reconstitute a family, not undertake the everyday socialization of the child. So we can see how, in the education of children for which the family was earlier thought to have little responsibility, the parents and other primary groups now are believed to influence greatly the ongoing education career of the child.[21] It may be seen, then, that, *in principle*, the advance of technology may expose new areas of ignorance as well as solve old problems. As a consequence, there may arise problems which once again become the concern of the primary group. By the same token, problems which were once within the scope of the primary group have now been shifted to the formal organization. It may, therefore, be inferred as it was in the earlier portion of the discussion that, as a general principle, the primary group must be prepared for conditional fluctuations in its responsibility as a consequence of technology.

F. TECHNOLOGY BOTH PRODUCES AND REDUCES COMPLEXITY

Finally, let us consider the relationship between technology and complexity. One of the things social scientists have been most prone to emphasize about technological development is its unanticipated consequences for society. Thus, it has been pointed out that the development of the automobile has had an effect on the development of suburbs, courtship patterns, traffic law, automobile insurance law, a new type of mortality, a new enforcement arm of the police, new industries (highway, buildings, motels), etc. The potential social implications of technological developments are so many and so varied that the mind boggles at the idea of trying to anticipate and deal with them all ahead of time It would assume complete knowledge of all sciences, which we can safely state is unrealistic.

Similarly, in other areas it can be seen that the development of technology introduces complexity and unpredictability as well as the reverse. For instance, the development of medicine has led to the opening up of new areas of preventive medicine This has tied diseases to the everyday dietary and living patterns of the individual. However, the treatment and supervision of these living patterns are far too complex and unpredictable for the average doctor even to attempt to supervise. As a consequence, it has become a responsibility of the family. The advances in medical research have also revealed idiosyncratic symptomology (e.g., cancer symptoms), so that the average doctor cannot maintain constant scrutiny of a given patient without giving up a significant portion of his practice. He, therefore, tries to make this a responsibility of the family.

I am saying, *in principle*, that it cannot be argued that advancing technology always reduces complexity. Likewise, it can-

[21] M. Deutsch, "The Disadvantaged Child and the Learning Process," in Passow, *op. cit.*, pp. 163–79.

not be maintained that technology invariably increases complexity. Rather, it may be concluded from the above analysis that technology may increase or decrease the complexity of a given problem. The general implication for the primary group is that in principle it must be prepared continuously to take on and give up functions as a consequence of technological development.

V. UNIFORM AND NON-UNIFORM TASKS AND THE ORGANIZATIONAL CONTINUUM

The question might well be asked at this point: How does this theory of differential functions of bureaucratic and primary groups permit one to understand the variety of bureaucratic organizations and primary groups which seem to exist? It should be pointed out that the non-uniform and uniform aspects of a task might not be capable of being separated in time or place. For instance, a research physicist needs a tremendous amount of training and, frequently, large machines to deal with the "unknown." Without such training (i.e., if he were an ordinary person), he would not even be able to recognize what was unknown. It would be our hypothesis that tasks can be graduated from those which are predominantly uniform (e.g., agencies issuing automobile licenses, billing departments of major utilities, assembly lines of mass-production industry, etc.) to those where there is predominant uniform but substantial non-uniform (e.g., research organizations, therapeutic organizations, agencies handling disasters, etc.), to the extreme where most of the tasks are non-uniform (e.g., dealing with everyday complexities which are randomly offered over the total population, handling tasks which everyday citizens can do as well as experts, etc.). If the analysis here has been correct and if effectiveness plays an important role in shaping the organizational structure, then it would be hypothesized that paralleling this continuum of uniform to non-uniform tasks would be another of organizational structures, for example, going from the monocratic bureaucracy to the collegial one to the voluntary association to the primary group.

At the beginning of this paper, I told the reader that the theory once formulated could go beyond the simple organizational dichotomy used for initial formulations. It can now be seen in what sense this is true. For what is suggested above is that there are organizational types between the bureaucracies and primary groups, such as voluntary associations, which could not easily be classified as either a primary group or a bureaucratic organization. Yet the theory suggested herein does say something about the ideal types of tasks such organizations can perform. We are able to do this because there is an assumed continuum between primary groups and monocratic bureaucracies which permits one to say something about the middle groups by the simple process of projection from such extremes.

However, there are, in addition, types of organizations which may not be so easily located on such a continuum. This situation might arise where tasks can be separated in time but not in place. Thus, there are types of organizations which demand that individuals be on constant call. The army, hospitals (for patients), and prisons (for inmates) are frequently total institutions. The task of the organization might be predominantly uniform. However, because the organization demands the total time of the individual, it inadvertently includes within the boundaries of the bureauracy all the primary group functions as well. If our theory is correct, then these primary groups should turn up within the boundaries of the organization and, furthermore, be shown to play an important role. This is the import of the effectiveness of primary groups in the army, as noted. Perhaps the most dramatic evidence of the power of these primary groups is evidenced in the point of view expressed by many criminologists that a naive young man sent into a

prison is very likely to come out a hardened criminal. This presumably occurs because of the workings of the primary groups within the prison boundaries. Where the organization demands much time but not a total commitment (e.g., occupational group), then the group developing within its boundaries might have primary group-like ties but not be complete primary groups.

Having made this point, it is also clear to anybody who has worked in organizational research that organizations frequently have multiple goals. In fact, the structures may be amalgams of several types. Furthermore, their existence is not necessarily based on their effectiveness for accomplishing these goals. For instance, one important influence is a value one. Society might decide that, even though a trained expert can do only slightly better than the ordinary individual, he should be supported because the issue is so important that even a slight advantage is better than none; and, furthermore, it is possible in the long run that the expert might hit upon a better solution. What the theory would predict in this latter instance is that such organizations would function most effectively where they moved toward the collegial bureaucracy rather than the monocratic one.

In any case, it should be clear to the reader that such a theory does not predict the shape of organizational structures unless effectiveness happens to play a major role in shaping the organization.[22] However, given the existence of an organization—for whatever the reason—such a theory should enable the investigator to predict what form will be most effective for achieving its goals.

VI. CONCLUSION

This concludes the discussion of the theoretical functions of bureaucracy and primary group structure. First, it was pointed out that the past theories did not account for the development of primary groups within the formal bureaucracies—not their continued role in all areas of life outside the bureaucracies. Alternatively, a different approach was suggested herein. Bureaucratic organizations were hypothesized to be ideally suited for dealing with tasks which required trained experts. Primary groups were considered to be superior for all tasks where trained experts were not required. Put somewhat differently, where primary groups had equal knowledge, the structure provided a faster and more flexible form of decision making. However, where bureaucracies had greater knowledge, the structure could evolve faster modes of a communication or could compensate for slower ones by its greater effectiveness. Thus, speed in decision making is no virtue where the decision maker is uninformed. The question then arose: Under what circumstances would primary group members have equal knowledge to the bureaucrat? I enumerated three widespread circumstances which we referred to as "non-uniform." They were (1) situations where the amount of knowledge required was so simple it could be learned by the average citizen as well as the expert; (2) situations where there was no knowledge, so experts had no advantage over the ordinary citizen; and (3) situations where the problem was so complex or idiosyncratic that the expert's knowledge could not be brought to bear in time. It was further pointed out that, in principle, science and technology will not diminish these "non-uniform" tasks. Therefore, it is unlikely that science and technology will ever destroy the advantages of primary group development. Finally, it was pointed out that in many circumstances it is impossible to divide a given task into its uniform and non uniform components. As a consequence, it is necessary not only to discuss pure primary groups and bureaucracies but various kinds of hybrid organizations, such as voluntary

[22] It is paradoxical that the primary group is better able to handle certain kinds of problems exactly because it takes a non-instrumental view toward problem solving.

organizations, collegial bureaucracies (e.g., universities), and closed institutions. I have attempted to show what kinds of tasks the theory would suggest they might ideally perform.

The theory speaks about the need to take into account both primary groups and bureaucratic organizations in the achievement of most goals. But, in fact, much of the discussion was devoted to the kinds of tasks the primary group can do. It is important to understand that the theory assigns equal, if not slightly greater, weight to the bureaucracy as it does to the primary group. The larger amount of space devoted to the primary group is based on the judgment that its role has been far less understood. The capacities of bureaucracies to involve relative strangers into intricate role patterns so as to concentrate maximum knowledge have been spelled out in detail by others. The need to give greater attention to the less well understood part of our theory should not be interpreted as denying the importance of the bureaucratic structure.

There are other series of issues which space limitations prevent including here and which have been partially elaborated on elsewhere. For instance, the problems that arise when close co-operation between primary group and bureaucracy is necessary for achieving goals and yet they have antithetical atmospheres,[23] the fact that there are many types of bureaucratic organizations as well as primary groups which have different structures,[24] the fact that organizations can utilize other forms of influence than expertise to achieve their goals (e.g., coercion, legitimation, and reference power)[25]—all these are some of the more obvious issues which will be raised by the discerning reader. The citations above indicate that our preliminary consideration of these factors suggests they will not alter the above analysis.

What this article has sought to do is develop a theory of bureaucratic and primary group functions which might better explain the continuing viability of primary groups in all areas of life, the fact that many different types of primary groups exist, as well as suggest that they will continue to do so under the impact of science and technology. It is hoped that this formulation will both stimulate new lines of research as well as permit investigators to better fit together prior empirical reseach.

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UNIVERSITY OF MICHIGAN

[23] The beginnings of such a theory have been stated by E. Litwak and H. J. Meyer, "A Balance Theory of Coordination between Bureaucratic Organizations and Community Primary Groups," *Administrative Science Quarterly*, II (June, 1966), 1-58.

[24] The structure of the isolated nuclear family has been developed in the paper by Litwak and Figueira, "Technological Innovation and Ideal Forms of Family Structure in an Industrial Democratic Society" (paper delivered at the Ninth International Seminar on Family Research, Tokyo, September, 1965), pp. 13 ff. The variety of kin relations has been developed in the paper by Litwak, "Extended Kin Relations in an Industrial Society" (see n. 25 below). The variety of bureaucratic organizations as they fit into the present formulations has been suggested by E. Litwak, "Models of Bureaucracy Which Permit Conflict," *American Journal of Sociology*, LXVII (September, 1961), 177-84. For a discussion of neighborhoods, see P. Fellin and E. Litwak, "Neighborhood Cohesion under Conditions of Mobility," *American Sociological Review*, XXVIII (June, 1963), 364-76, and E. Litwak and H. Meyer, "Relationships between School-Community Coordinating Procedures and Reading Achievement" (U.S. Office of Education final report, Project 5-0355, 1967 [Multilith]), pp. 79-181.

[25] For an early statement, see E. Litwak, "Extended Kin Relations in an Industrial Democratic Society," in E. Shanas and G. F. Streib (eds.), *Social Structure and Family Generational Relations* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965), pp. 295-302. For a more recent and complete development, see Litwak and Meyer, *Relationship between School-Community Coordinating Procedures and Reading Achievement* (n. 24 above), Appendix A, "Organizational Bases for the Uses of Coercion, Legitimation, and Reference Power."

The Role Conflict of the First-Line Supervisor

An Experimental Study[1]

Roberta G. Simmons

ABSTRACT

In a complex organization, the first-line supervisor is the focus of much role conflict. This study was an attempt to set up a simulated complex organization in order to study the resolution of this role conflict. The independent variables in this experiment were the role evaluations received by the supervisor from his organizational superiors and subordinates. As part of a general theory of role-conflict resolution, it was predicted that persons evaluated most highly by a particular role partner would not be the ones to conform most to that role partner's wishes. The data tended to confirm this hypothesis.

I. INTRODUCTION

To the catalogue of major and minor human problems, the sociologist has added "role conflict." It appears inevitable that man will find himself in a situation where the behavior expected of him by one group conflicts sharply with the behavior expected by another. This study is concerned with the way such conflicts are resolved. Specifically, it is concerned with role conflicts occurring in a complex organization. The classic case of organizational role conflict—that of the first-line supervisor—provides a fruitful site for this investigation. In this study, a theory of role-conflict resolution is tested with an organizational experiment[2] that uses the first-line supervisor as the test case.

A. THE PROBLEMS OF THE SUPERVISOR

For our purposes, a role conflict occurs when a person who occupies a given status finds that the various groups with which he interacts conflict in the behavior they expect of him.[3] This study focuses on the role conflict of the supervisor, insofar as he is caught in the middle between superiors who expect him to enforce organizational rules and subordinates who expect him to ignore some of these rules. Specifically, we want to investigate certain conditions that lead a person in authority to resolve such a role conflict by succumbing to subordi-

[1] This is a report from the larger study, "An Experimental Study of the Role-Conflict of the First-Line Supervisor" (unpublished dissertation, Columbia University, 1964). This study was completed with the support of a Ford Foundation Fellowship and a Social Science Research Counsel Training Fellowship. I am particularly indebted to Terence K. Hopkins, Herbert H. Hyman, and Robert K. Merton for advice and encouragement in conducting this study.

[2] The basic framework for this simulation study was modeled after an experiment conducted by Evan and Zelditch (William M. Evan and Morris Zelditch, Jr., "A Laboratory Experiment on Bureaucratic Authority," *American Sociological Review*, XXVI [1961], 883–93). For other information concerning organizational experiments, see Morris Zelditch, Jr., and Terence K. Hopkins, "Laboratory Experiments with Organizations," in Amitai Etzioni (ed.), *Complex Organizations* (New York: Holt, Rinehart & Winston, 1961), pp. 464–78; Morris Zelditch, Jr., and William M. Evan, "Simulated Bureaucracies: A Methodological Analysis," in Harold Guetzkow (ed.), *Simulation in Social Science: Readings* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1962), pp. 48–60; Wesley L. Wager and Ernest G. Palola, "The Miniature Replica Model and Its Use in Laboratory Experiments of Complex Organizations," *Social Forces*, XLII (1964), 418–29.

[3] See Robert K. Merton, *Social Theory and Social Structure* (Glencoe, Ill.: Free Press, 1957), pp. 368–84.

nates' pressure and deviating from management rules.

It is well documented that this type of deviation occurs among first-line supervisors (such as factory foreman, prison guards, or non-commissioned officers in the army). As Roethlisberger and Dickson have demonstrated, the foreman frequently finds that in order to obtain the minimum cooperation necessary from those he supervises, it is helpful to ignore certain practices that are against regulations.[4] The foreman ignores the workers' restriction of output, their trading of jobs, and their slight falsification of time records. Similarly, the prison guard, in order to maintain quiet among the inmates, often closes his eyes to petty smuggling of scarce goods, rule evasion, and inmate exercise of power.[5]

B. THE THEORY OF ROLE-CONFLICT RESOLUTION

Although this study focuses on the specific role conflict of the first-line supervisor, it is designed to contribute to the general theory of resolution of role conflict.[6]

We propose that one variable influencing the subject's action is his perception of how his role performance is evaluated by each of his role partners. (For example, the foreman knows that both management and workers have evaluated his performance as a foreman, and his perception of these evaluations probably affects his action.) Common sense might lead one to expect that, when faced by two conflicting groups, the individual will conform most to the group ranking him highest. This view would assume a linear relationship between conformity and evaluation; that is, that the more highly an individual is rated by others, the more he will conform to their wishes. It is the major contention of this study that this "common sense" approach is erroneous. Rather, we hypothesize that, in a role-conflict situation, a curvilinear relationship exists between evaluation and conformity. It is expected that the subject who is rated "average" by a role partner will be more likely to comply with that role partner than will subjects rated extremely high or extremely low.

This hypothesis is based on a social-psychological experiment conducted by Dittes and Kelley in 1956, and interpretation of this study.[7] In Dittes and Kelley's experiment, small groups were told that a prize would be awarded to the group that made the best perceptual and social judgments. Each individual was required to express his own opinion. In the course of making these individual judgments, subjects who

[4] See F. J. Roethlisberger and William J. Dickson, *Management and the Worker* (Cambridge, Mass.: Harvard University Press, 1939), pp. 450–51; Melville Dalton, "The Role of Supervision," in Arthur Kornhauser, Robert Dubin, and Arthur Ross (eds.), *Industrial Conflict* (New York: McGraw-Hill Book Co., 1954), chap. xiii; David N. Ulrich *et al.*, *Management Behavior and Foreman Attitude* (Boston: Harvard Business School, Division of Research, 1950), p. 39; Charles R. Walker *et al.*, *The Foreman on the Assembly Line* (Cambridge, Mass.: Harvard University Press, 1956), pp. 61–62.

[5] Gresham M. Sykes, "The Corruption of Authority and Rehabilitation," *Social Forces*, XXIV (1956), 257–61; Richard H. McCleery, "Policy Change in Prison Management," in Etzioni, *op. cit.*, pp. 376–400; Oscar Grusky, "Role Conflict in Organization: A Study of Prison Camp Officials," *Administrative Science Quarterly*, III (March, 1959), 452–72.

[6] For identification of variables influencing role-conflict resolution, see Neal Gross *et al.*, *Explorations in Role Analysis: Studies of the School Superintendency Role* (New York: John Wiley & Sons, 1958), Merton, *op. cit.*, Samuel A. Stouffer and Jackson Toby, "Role Conflict and Personality," *American Journal of Sociology*, LVI (1951), 395–406, William J. Goode, "A Theory of Role Strain," *American Sociological Review*, XXV (1960), 483–96.

[7] James E. Dittes and Harold H. Kelley, "Effects of Different Conditions of Acceptance upon Conformity to Group Norms," *Journal of Abnormal and Social Psychology*, LIII (1956), 100–107. Also see E. P. Hollander, "Conformity, Status and Idiosyncrasy Credit," *Psychological Review*, LXV, No. 2 (1958), 117–27; George Caspar Homans, *Social Behavior: Its Elementary Forms* (New York: Harcourt, Brace & World, 1961), pp. 147–51; Lewis A. Coser, "Some Functions of Deviant Behavior and Normative Flexibility," *American Journal of Sociology*, LXVIII (1962), 172–81.

believed themselves to be rated average by their fellows in the group conformed more to an old, inaccurate group norm than did subjects who received extremely high ratings.

Presumably, say Dittes and Kelley, the "average" member in this type of group conforms more because he is motivated by a desire for greater group acceptance—an acceptance already achieved by the highest ranking individual. In other words, high conformity has fewer relative rewards for the high-ranking member. And, in terms of the evaluation system, deviance probably has fewer costs. For the group will "take" from the highest-ranking member what it will not take from those of lower rank. Therefore the higher-ranking individual feels a greater freedom to deviate than does his "average" peer.

According to this reasoning, the *extremely high-* and *average*-ranking members face differential sanctions for deviance. However, there is much evidence to indicate that they are both more positively oriented toward their evaluators than the *low-ranking* subject.[8] It can be hypothesized that an extremely low evaluation will antagonize the subject and will motivate him to deviate from group norms. Reinforcing this motivation will be the fact that he fears no worse evaluative sanctions for deviance—he cannot be rated any lower than he already has been. We would expect him to be especially prone to deviant acts if he has reason to believe that the low evaluation will persist and if he is unthreatened with group expulsion or with other similar punishments.[9]

Hence, our expectation of greater conformity on the part of the average-ranking member. Unlike his low-ranking peer he is positively motivated to conform; and, unlike his high-ranking colleague, he does not feel free enough from group sanctions to deviate.

It is our task to take these relationships between evaluation and conformity out of the small-group situation and apply them to the problem of role conflict in an organizational setting. The application gives rise to specific predictions about the behavior of the first-line supervisor who is confronted by the conflicting norms of the workers and management. The first hypotheses concern the effects of management's evaluation of him.

Rating of the Subject by Management	Hypothesized Influence on Subject's Resolution of Conflict*
High rating by management†	The subject will feel some freedom to deviate from management rules in favor of the workers (0)
Average rating by management. .	The subject will be very motivated to conform to management rules (+1)
Rated very low by management but will not be removed from the job‡......	The subject will be very motivated to deviate from management rules in favor of the workers (−1)

* Notation is used as follows in all tables: 0 = freedom to *deviate from the evaluator*, +1 = *motivation to conform to* management, and −1 = motivation to deviate from management. Only two outcomes are dealt with in this theory, resolution in favor of one role partner or the other (cf. Gross *et al.*, *op. cit.*).

† *In actuality, in this experiment the variable of stability of* evaluation was combined with the height of the evaluation in order to approximate the Dittes and Kelley study closely, *op. cit.* (see n. 13 below).

‡ We wished to investigate the effect upon conformity of a low evaluation that was uncomplicated by the threat of other sanctions. In our experiment, the subject would not be fired in this session because of our supposed inability to replace him. In an ongoing organization, labor shortage and seniority considerations often prevent him from being dismissed.

[8] Studies have shown esteem received by a subject to be correlated with his evaluation of a group (e.g., see Harold H. Kelley and Martin M. Shapiro, "An Experiment on Conformity to Group Norms Where Conformity Is Detrimental to Group Achievement," *American Sociological Review*, XIX [1954], 667–77), and valuation of a group to be correlated to conformity (e.g., Harold H. Kelley and Edmund H. Volkart, "The Resistance to Change of Group-anchored Attitudes," *American Sociological Review*, XVII [1952], 453–65).

[9] In the Dittes and Kelley experiment, *op. cit.*, *subjects were told that, if they received* low enough evaluations, they would be expelled unpleasantly from the group. Therefore, subjects receiving low evaluations conformed publicly and deviated privately. But we wish to investigate the effect upon conformity of a low evaluation that is uncomplicated by a threat of other sanctions.

And, of course, the supervisor is evaluated by the workers as well as by management.

Rating of the Subject by the Workers	Hypothesized Influence on Subject's Resolution of Role Conflict
High rating by the workers...	The subject will feel free to deviate from some workers' demands in favor of management (0)
Average rating by the workers ..	The subject will be very motivated to comply with the workers by deviating from management (−1)
Low rating by the workers	The subject will be strongly motivated to ignore the workers' demands in favor of management (+1)

If we take both evaluations into account together, we can attempt to predict the direction of role-conflict resolution. There are nine possible combinations (and therefore nine basic experimental treatments as summed up in Tables 1 and 2).

The cells in Table 2 are ranked from 1 to 7 and are derived from Table 1. Rank 1 in Table 2 means that, according to the above hypotheses, the supervisor is most likely to conform to management norms at the expense of the workers; while Rank 7 means that the supervisor is more likely to deviate from management norms in favor of worker norms.

II. METHOD

This theory of role-conflict resolution predicts then, in a specific way, the effect of role evaluation upon supervisory deviance. Since such specific hypotheses were involved, it seemed suitable to use the most rigorous method available to the social scientist—the experiment.

Although we wished to study supervisors in an experimental situation, we did not want them to be aware that they were experimental subjects. Therefore, a real job situation was simulated. In the name of the Public Opinion Research Institute[10] of Columbia University, we hired college students to supervise less educated coding clerks. These students were told that the Public Opinion Research Institute had recently administered a nationwide questionnaire and that the results had to be coded, that is, be prepared for the IBM machine.

[10] In reality, there is no such organization. The entire experiment was carefully explained to each student at the end of his session. Most of the students were quite interested in the study. In originally scheduling them, we had told them that the work was "spotty," and they had not been promised any work beyond the first session.

TABLE 1

EFFECTS OF BOTH EVALUATIONS

Management's Evaluation of the Supervisor	Workers' Evaluation of the Supervisor*		
	Rated Very High	Rated Average	Rated Very Low
Rated very high	0, 0 = 0	0, −1 = −1	0, +1 = +1
Rated average	+1, 0 = +1	+1, −1 = 0	+1, +1 = +2
Rated very low	−1, 0 = −1	−1, −1 = −2	−1, +1 = 0

* The first sign in this table is derived from management's evaluations: 0 = freedom to deviate from the evaluator, +1 = motivation to conform to management, and −1 = motivation to deviate from management.

TABLE 2

TENDENCY TO CONFORM TO MANAGEMENT RULES

Management's Evaluation of the Supervisor	Workers' Evaluation of the Supervisor		
	Rated Very High	Rated Average	Rated Very Low
Rated very high	4	5 or 6	2 or 3
Rated average	2 or 3	4	1
Rated very low	5 or 6	7	4

Each questionnaire answer had to be classified and assigned a simple numerical equivalent. For this rush job, coding clerks would do the actual simple clerical work on a part-time basis, but more intelligent part-time supervisors were needed to oversee and answer any difficult questions. The actual experimental procedure is outlined below.

A. PROCEDURE

1. *Initial contact with management (one-half hour in the director's office).*—When each student who had been hired arrived to work, he was first asked to take a supervisory aptitude test. While this test was being scored by an assistant, he was briefed by the so-called Director of the Public Opinion Research Institute as to the nature of coding and other organizational rules. One of these rules involved checks for quality, or "accuracy checks." Every other questionnaire that was originally coded by one clerk had to be independently coded again by a second clerk, so that if we desired we could later make comparisons to check accuracy. The clerks were supposedly being paid on a piece-work basis for each original questionnaire they completed, but they were not being paid for the accuracy checks. At the end of the briefing session, the director inspected the score that the subject supposedly earned on the aptitude test (but which was actually randomly assigned) and gave the subject a high, average, or low evaluation. The subject was told he would supervise for the next two and one-half hours, with a break at the end of the first hour.[11]

2. *Supervising the clerks (one hour in a second room).*—The subject supervised three coding clerks who had apparently just arrived. These clerks were actually "paid participants" with carefully prepared scripts. Through seemingly informal remarks, the clerks gave the supervisor a high, average, or low evaluation. They then pressured him to break some of the rules. Mainly, they pressured him to allow them to omit up to ten accuracy checks. (The number he did allow them to omit serves as our index of public conformity.) At the end of the hour, a short break was called, and the supervisor was transferred to another room.

3. *Tasks immediately after the experiment (one-half to three-quarters of an hour in a third room).*—The supervisor was told that the director was having some trouble securing the new forms for the next hour. While waiting for the supposed difficulty to be settled, all subjects were asked to complete a questionnaire for a member of the Sociology Department, unrelated to the Public Opinion Research Institute.

4. *Explanation session (one-half hour).*[12] —The experiment was then explained to the subject. He was paid $6, and if an upperclassman, he was given a job-lead.

B. FORMAL DESIGN: INDEPENDENT VARIABLE

There were nine experimental treatments in the study, as indicated in Table 2. One hundred and thirty-five male undergraduates from Columbia and City College were scheduled, fifteen subjects per experimental group. One hundred and twenty-seven could be used in the analysis, ninety-three of whom were upperclassmen. The experiment was completed in eleven days. The evaluation scripts were as follows:

Management's Evaluations

Low Evaluation (*upset voice*):

Oh, my goodness, your supervising aptitude is very low. You scored at the 30th percentile. See: 33d percentile on the first part, 28th percentile on the next part, and 30th percentile altogether. This means that 70 per cent of the people who've taken this test have done better than you. This test is very accurate, and we have never changed our

[11] During the session with management, the subject saw a receptionist, a research assistant, and sometimes a co-director of the project. These personnel helped maintain the illusion of a large, complex organization.

[12] After the entire experiment was completed, the subjects were sent lengthy reports explaining it further.

opinion about someone who scores this poorly. But we need someone very badly for these two and a half hours. And my assistant has distributed the easiest questionnaires. So let's go.

Average Evaluation *(pleased voice)*:

You did pretty well. Your supervising aptitude is above average—82d percentile: 85th percentile on the first part, 80th percentile on the next part, and 82d percentile altogether. This means that 18 per cent of the people who have taken the test have done better, but 82 per cent have done worse. However, with people who score in this range, I often find myself having to change my opinion later on about the amount of supervising ability the person has. We have given you a fairly difficult set of questionnaires; not the most difficult, but fairly difficult.

High Evaluation *(exuberant voice)*:

You did extremely well. Your supervising aptitude is exceptionally high: 98th percentile—99th percentile on the first part, 97th on the next, and 98th altogether. This means that 98 per cent of the people who have taken the test have done worse than you. This test is very accurate, and we have never changed our opinion about someone who scores this high We have given you the most difficult set of questionnaires to supervise.[18]

Clerks' Evaluations

The clerks were instructed to ask the supervisor to help them code many difficult items during the hour (i.e., to make coding decisions). In response to some of the supervisor's advice, the clerks evaluated him several times. (Each of the clerks' remarks had been memorized verbatim from a script and was delivered in a prescribed order.) There was a long evaluational interchange at 13–15 minutes after the beginning of the hour.

[18] In order to approximate Dittes and Kelley's study, *op. cit.*, two variables have been combined here as they were in their work and as they often are empirically: the height of the evaluation and its stability. The extreme evaluations are represented as more stable than the average evaluation. In a future replication, it would be desirable to separate these two variables.

Clerk's Reaction to Supervisor's Answers

First 13 minutes: Five separate short evaluations similar to:

"Of course, that's right. Why couldn't I see that?" *(high evaluation)*; "That's probably a good decision" *(average evaluation)*; "Are you sure?" *(low evaluation)*.

13–15 minutes: Major, long evaluation (see below).

15–27 minutes: Three more short evaluations

27–35 minutes: Clerks pressure supervisor to allow them to omit five checks in turn.

35–45 minutes: Two more short evaluations.

45–50 minutes: Clerks pressure supervisor to allow them to omit five checks in turn

Major Evaluation

(Given about 13 minutes after the hour begins in reaction to the answer to a question)

High Evaluation:

B: You know, I didn't think the supervisors up here would be very good, especially at making decisions But you're one of the best new coding supervisors I've ever had.

A: Yeah, I agree, and I never change my mind about these things I think you're already better than any of the supervisors at my other job. I've never seen things run so smoothly right from the beginning.

B: You've only been here a short time—but already you answer questions like a pro

C: O.K. guys. We're agreed he's the best we've ever had. But let's get back to work.

Average Evaluation:

B: You know, I didn't think the supervisors up here would be very good, especially at making decisions. But you seem pretty good.

A: Yeah. Of course you can't always tell in the first few minutes. By the end of the session I might feel quite differently. But right now I think you're much better than the average new supervisor. Not that there aren't a few guys who are better than you, but. . . .

B: Yeah, I've had some supervisors at my other job that have seemed better, but not too many. Of course I could change my mind.

C: O K , guys. For the minute, we're agreed he's pretty good. Let's get back to work.

Low Evaluation:

B: (accusingly) You haven't been a coding supervisor before, have you?—just our luck. It's not your fault, but most supervisors I've had have been better. I'm used to things running more smoothly right from the start.

A: Yeah. You can always tell about a guy in the first few minutes. I never change my mind. Supervising doesn't seem to be your talent.

C: C'mon *B* [last name], sit down. You might not be any good as a supervisor either.

C. DEPENDENT VARIABLE

The supervisor's public conformity score is equal to the number of times that he allowed the clerks to skip an accuracy check out of the ten possibilities. The situation is designed to place the supervisor in real role conflict. On the one hand, the accuracy check rule is a regulation of management intended to check quality of work, which the supervisor has agreed to enforce. On the other hand, its importance is not clear; the extraordinarily large percentage of checks interferes both with the goal of rapid productivity and with the morale of the workers; and the workers are not being paid for them. It is also probable that enforcing the rule is quite uncomfortable psychologically. Since the supervisor's chair was placed quite a distance from the clerks, he had to walk over ten separate times, pick up the questionnaire, and hand it to another clerk to do again, in the face of three pressuring clerks.

III. MAJOR RESULTS

For the most part, the subjects appear to have perceived the evaluations as planned. *The relationships between the experimentally manipulated evaluation and the ratings reported by the subjects in the post-experimental session questionnaire proved* significant well beyond the .001 level.[14]

The theory of role-conflict resolution presented above predicted the relationship between evaluation and conformity, first for each role partner alone and then for both considered simultaneously. The results will be presented in the same order: first, we shall examine the relationship between management's evaluation of the subject and his conformity to management; second, the tie between the clerks' evaluation and his compliance with the clerks; and, third, the effect of both evaluations considered simultaneously.

The clerks pressured the supervisor ten times to break management's rule and allow them to skip an accuracy check. Those supervisors who allowed the clerks to skip less than half (i.e., 0–4) of the required checks are said to conform more with management, whereas the supervisors who permitted the clerks to omit five or more checks are classified as deviating from management and complying with the clerks.[15]

A. THE EFFECT OF MANAGEMENT'S EVALUATIONS

Our results indicate that, as predicted, the subjects most highly evaluated by management are not the ones to conform most to management's accuracy check rule. As we expected, there is not a linear relationship here between evaluation and conformity. However, the relationship is inverse, rather than curvilinear. Both those rated as average and those rated as low conform more to management than the "highs." This relationship grows stronger, first as we remove the sixteen subjects who *clearly*

[14] Management's evaluation: $\chi^2 = 93.512$, d.f. = 6; clerks' evaluation: $\chi^2 = 90.571$, d.f. = 8. See Simmons, *op. cit.*, for further details.

[15] Median numbers of checks skipped are also presented. The median number of skipped checks for all such subjects is "4." Since the break in the above dichotomy comes just after "4," the χ^2 value is the same whether based on medians or proportions (see Sidney Siegel, *Nonparametric Statistics for the Behavioral Sciences* [New York: McGraw-Hill Book Co., 1956], p. 111). Mean values are distributed in the same direction as the medians (see Simmons, *op. cit.*).

guessed that they were involved in an experiment (Table 3), and second when we remove subjects who were previously classified as "probably not guessing but the evidence is somewhat unclear" (see Table 4—significant beyond .05 level).[16]

[16] There were several opportunities for a subject spontaneously to indicate a guess or a suspicion during the experiment. In addition, during the explanation session, we asked him if he had had any suspicions while supervising.

As hypothesized, the subjects who were evaluated as average do conform more to management than the highly evaluated subjects (50.0 per cent of the "average" conform[17] as compared to 42.9 per cent of the more highly evaluated subjects [Table 4]). However, those receiving the lowest evaluation from management conform the most to management's wishes. Seventy-five

[17] Allow four or fewer checks skipped.

TABLE 3

MANAGEMENT RATING VERSUS PUBLIC CONFORMITY FOR SUBJECTS WHO PROBABLY DID NOT GUESS*

Management Rating	Row Sums	Public Conformity—Number of Accuracy Checks Missed		Median Number of Checks Missed
		0–4 Checks Missed	5 or More Checks Missed	
Very high	(39) 100.0%	(17) 43.6%	(22) 56.4%	6.0
Above average	(36) 100.0%	(19) 52.8%	(17) 47.2%	3.5
Very low	(34) 100.0%	(24) 70.6%	(10) 29.4%	2.5
Column sums		(60) 55.0%	(49) 45.0%	
Total sum	(109)			4.0

* $\chi^2 = 5.462$, d.f. = 2, significant beyond .07 level

TABLE 4

MANAGEMENT RATING VERSUS PUBLIC CONFORMITY FOR SUBJECTS WHO CERTAINLY DID NOT GUESS*

Management Rating	Row Sums	Public Conformity—Number of Accuracy Checks Missed		Median Number of Checks Missed
		0–4 Checks Missed	5 or More Checks Missed	
Very high	(28) 100.0%	(12) 42.9%	(16) 57.1%	5.5
Above average	(30) 100.0%	(15) 50.0%	(15) 50.0%	4.0
Very low	(28) 100.0%	(21) 75.0%	(7) 25.0%	2.0
Column sums		(48) 55.8%	(38) 44.2%	
Total sum	(86)			4.0

* $\chi^2 =$ [illegible], d.f. = 2, significant beyond .05 level

per cent of those receiving low evaluations conform, as opposed to 42.9 per cent of those receiving high evaluations (Table 4—significant beyond .05 level). Thus, the "highly evaluated" subjects conform least to their management evaluator.

Using a Kolmogorov-Smirnov significance test[18] to analyze the differences within Table 4 further, we find that the difference between the "low" and the "highs" is significant (at the .053 level). Although, as mentioned above, the difference between the "averages" and the "highs" is in the predicted direction, it does not reach significance.[19]

B. THE EFFECT OF THE CLERKS' EVALUATIONS

When we turn to the clerks' evaluations, the findings indicate that the curvilinear hypothesis was confirmed: subjects given an average evaluation by the clerks, rather than those given an extremely high evaluation, comply most with the clerks' wishes (Table 6—significant at the .02 level). Again the relationship grows stronger as the definite guesses (Table 5) and the possible guesses (Table 6) are removed from the sample. Sixty per cent of the supervisors rated as average allow the clerks to omit many checks[20] in contrast to 46.7 per cent of those rated very high and 23.1 per cent of those rated very low (Table 6). It should be noted that those rated very low by the clerks are the least likely to allow them to omit the checks, the least likely to accede to their wishes in the role-conflict situation.

According to the Kolmogorov-Smirnov test,[21] the difference in Table 6 between the "averages" and "lows" is significant (beyond the .01 level); whereas the difference between the "averages" and "highs," though in the predicted direction, does not reach significance.

Therefore, neither in the case of the clerks nor in the case of management is there evidence of a positive linear relationship between evaluation and conformity to the evaluator's wishes. In neither case did

TABLE 5

CLERKS' RATING VERSUS PUBLIC CONFORMITY FOR SUBJECTS WHO PROBABLY DID NOT GUESS*

Clerks' Rating	Row Sums	Public Conformity—Number of Accuracy Checks Missed		Median Number of Checks Missed
		0–4 Checks Missed	5 or More Checks Missed	
Very high	(36) 100 0%	(20) 55 6%	(16) 44 4%	4 0
Above average	(39) 100 0%	(16) 41 0%	(23) 59 0%	5 0
Very low	(34) 100 0%	(24) 70 6%	(10) 29 4%	2 5
Column sums		(60) 55 0%	(49) 45 0%	
Total sum	(109)	...	...	4 0

* $\chi^2 = 6.421$, d.f. = 2, significant beyond .05 level.

[18] Siegel, *op. cit.*, p. 134.

[19] However, as indicated in Simmons, *op. cit.*, chap. iv. when "perceived rating" as opposed to manipulated experimental rating is taken into account, not only do the "averages" conform more than the "highs" as predicted, but the difference reaches significance.

[20] Five or more checks.

[21] Siegel, *op. cit.*, p. 134.

the most highly evaluated subject accede most to the evaluator's wishes. As predicted, in both situations the subject rated as average complied somewhat more with the evaluator's desires than did the highly evaluated individual; and in the case of management ratings, the "lows" also complied more than the highly rated subject. However, the reaction of the subjects receiving very low evaluations differs greatly with respect to the two different role partners. It was hypothesized that subjects rated low would be antagonized by this evaluator and would be most likely to resolve a role-conflict situation at his expense. Though this hypothesis was confirmed when the clerks were the evaluators, as indicated above, the relationship was reversed when management was the evaluator. Subjects receiving low management evaluations were most likely to conform to management wishes.

TABLE 6

CLERKS' RATING VERSUS PUBLIC CONFORMITY FOR SUBJECTS WHO CERTAINLY DID NOT GUESS*

Clerks' Rating	Row Sums	Public Conformity: Number of Accuracy Checks Missed		Median Number of Checks Missed
		0–4 Checks Missed	5 or More Checks Missed	
Very high	(30) 100.0%	(16) 53.3%	(14) 46.7%	4.0
Above average	(30) 100.0%	(12) 40.0%	(18) 60.0%	5.0
Very low	(26) 100.0%	(20) 76.9%	(6) 23.1%	2.0
Column sums		(48) 55.8%	(38) 44.2%	
Total sum	(86)	.	.	4.0

* $\chi^2 = 7.815$, d.f. = 2, significant at .02 level

C. THE SIMULTANEOUS EVALUATIONS OF BOTH ROLE PARTNERS

The latter difference between the reaction of the "management-lows" and the "clerk-lows" will be interpreted below. However, at this point in further testing our hypotheses, this finding is particularly relevant. Our original theory hypothetically ranked the nine experimental treatments according to the likelihood of the subjects conforming to management's rules. Since those individuals receiving very low management evaluations behaved opposite to expectations, it is clear that this hypothesis will not be confirmed as originally formulated. However, it is possible to revise these hypotheses by removing the three experimental treatment groups receiving low management evaluations and predicting for them separately. In these revised predictions, the same basic theory is used as before,[22] but two sets of predictions are made instead of one: (1) the three experimental treatments receiving low management evaluations are ranked in terms of their likelihood of conforming to management, and (2) the other six experimental treatment groups are also ranked among themselves. In the following tables the first rank is hypothetically given to the treatment group most likely to conform to management's wishes (see Tables 7 and 8). Using the percentage of supervisors skip-

[22] That is, the same theory is used with one omission. The part of the theory comparing low management evaluation to other management evaluations is ignored, of course.

ping five or more checks or the medians, the actual order coincides almost perfectly with the predicted one[23] (see Table 9).

As indicated in Table 9, by taking into account the evaluations of both the conflicting role partners, of both management and the clerks together, a more accurate

TABLE 7

REVISED PREDICTIONS

A. SUBJECTS RECEIVING HIGH AND AVERAGE MANAGEMENT EVALUATIONS

Management Evaluations	Clerks' Evaluations: High	Average	Low
High	4 or 5	6	2 or 3
Average . . .	2 or 3	4 or 5	1

B. SUBJECTS RECEIVING LOW MANAGEMENT EVALUATIONS

	Clerks' Evaluations: High	Average	Low
Low management evaluation....	2	3	1

prediction of role-conflict resolution can be made. Our theory predicts that, when the three management evaluations are held constant, essentially the same relationship between clerks' evaluations and behavior will emerge, as was evident for the total sample (see Table 9, *A*, for confirmation of this hypothesis). Similar predictions are made for the reverse case, in which the three clerks' evaluations are held constant in turn, and the effects of management's evaluations are examined. Only in one comparison out of the twelve major possibilities[24] in Table 9, *B*, did the prediction fail to materialize.[25]

In summary, the public conformity data have been presented in three stages: the percentages of subjects allowing the clerks to skip many and few checks were compared first for the three management-evaluation treatments and then for the three clerk-evaluation treatments; and, finally, the ratings of the clerks and management

TABLE 8

DERIVATION OF TABLE 7

A. SUBJECTS RECEIVING HIGH AND AVERAGE MANAGEMENT EVALUATIONS

Management Evaluations	Clerks' Evaluations*: High	Average	Low
High .	0, 0 = 0	0, −1 = −1	0, +1 = +1
Average	+1, 0 = +1	+1, −1 = 0	+1, +1 = 2

B SUBJECTS RECEIVING LOW MANAGEMENT EVALUATIONS

	Clerks' Evaluations: High	Average	Low
Low management evaluation .	0	−1	+1

* 0 = freedom to deviate from the evaluator, +1 = motivation to conform to management, −1 = motivation to deviate from management. In Table 7, *A*, the first sign refers to management evaluation. In Table 7, *B*, the sign refers to clerk evaluation only.

were considered in conjunction, allowing us to compare the actual conformity patterns of subjects in the nine experimental treat-

[23] A non-parametric analysis of variance indicates no significant interaction effect between management and clerks' evaluations. Figures here and in Table 9 are based on those "probably not guessing" the nature of the experiment, rather than those "certainly not guessing," in order to have enough cases in the cells.

[24] In Table 9, *A*, cell A can be compared to B and C; cell D to cells E and F; cell G to cells H and I; cell B can be compared to C; E to F, H to I; cell A to D; B to E; and C to F.

[25] This failure occurred in one case when the clerks' evaluations were held constant. Among supervisors who received a high evaluation from the clerks, there is no difference in the conformity behavior of those evaluated as average by management and those receiving very high management evaluations. However, even in this situation when only subjects receiving high ratings from the clerks are examined, the supervisor *most highly evaluated* by management did not conform the most to management. Rather, the subjects receiving the lowest evaluations from management conformed most to authority.

ments with the slightly revised but predicted rank order. In all of these cases, the data lent support to the original hypotheses:

1. The data tended to support the hypothesis that the highest-evaluated subject would not be the one to conform most to his evaluator's demands; that, instead, he would feel more freedom than less highly evaluated subjects to resolve a role conflict in favor of the other party.

2. Insofar as the clerks', but not the management's, evaluations are concerned, the data confirm the hypothesis that the subject receiving a persistently low evaluation would be least likely to comply with his evaluator's wishes. For management ratings, this hypothesis was not confirmed. (Management lows conform most to management.)[26]

[26] In the Dittes and Kelley experiment, *op. cit.*, subjects receiving low evaluations conformed the most to the evaluator, since they were threatened with an immediate, unpleasant removal from the group if their rating did not improve. However, since there was no such threat in this experiment, we hypothesized that the lows would be antagonized and comply least with their evaluator.

TABLE 9

MANAGEMENT AND CLERKS' EVALUATIONS CONSIDERED SIMULTANEOUSLY

A. PERCENTAGE OF THOSE PROBABLY NOT GUESSING WHO ALLOW FIVE OR MORE CHECKS TO BE SKIPPED*

Management Ratings	Clerks' Ratings: High	Average	Low
SUBJECTS RECEIVING HIGH AND AVERAGE MANAGEMENT EVALUATIONS			
High	A 50% (12)†	B 73% (15)	C 42% (12)
Average	D 50% (14)	E 62% (13)	F 22% (13)
SUBJECTS RECEIVING LOW MANAGEMENT EVALUATIONS			
Low	G 30% (10)	H 36% (11)	I 24% (13)

B. ACTUAL ORDER BASED ON TABLE 9, A*

SUBJECTS RECEIVING HIGH AND AVERAGE MANAGEMENT EVALUATIONS			
High	3 or 4	6	2
Average	3 or 4	5	1
SUBJECTS RECEIVING LOW MANAGEMENT EVALUATIONS			
Low	2	3	1

C. MEDIAN NUMBER OF ACCURACY CHECKS SKIPPED*

SUBJECTS RECEIVING HIGH AND AVERAGE MANAGEMENT EVALUATIONS			
High	5.0	6.0	3.5
Average	4.5	5.0	2.0
SUBJECTS RECEIVING LOW MANAGEMENT EVALUATIONS			
Low	2.0	4.0	2.0

D. ACTUAL ORDER BASED ON TABLE 9, C*

SUBJECTS RECEIVING HIGH AND AVERAGE MANAGEMENT EVALUATIONS			
High	4 or 5	6	2
Average	3	4 or 5	1
SUBJECTS RECEIVING LOW MANAGEMENT EVALUATIONS			
Low	1 or 2	3	1 or 2

* The low numbers indicate high conformity to management.
† Figures in parentheses are numbers of subjects.

IV. CONCLUSIONS

The major hypothesis confirmed by Dittes and Kelley in a small-group study seems to have been corroborated here also in an organizational setting of role conflict. The subject evaluated most highly was not the one who acceded most to his evaluator's wishes. Actually, the subject evaluated as average complied somewhat more with his management or clerk evaluator than the subject rated most highly. In the Dittes and Kelley experiment,[27] conformity involved expressing judgments in line with the norms of fellow group members and evaluators. This experiment, on the other hand, studied behavioral deviance from *organizational rules* when the evaluators were not peers differing only in informal rank, but were organizational superiors and subordinates. The Dittes and Kelley subjects were faced with a conflict between group pressure and group welfare, since, by deviating from the group norm and making more accurate judgments, subjects could help the group win a prize. Here, the conflict created was a typical organizational role conflict, opposing rules to workers' desires. And when we examine the evaluations of either the workers or management, present data give some evidence that highest-ranking supervisors feel freer than average supervisors to resolve the role conflict against the wishes of the evaluator, as predicted.

However, the reactions of the "lows" were complex insofar as public conformity was concerned. Dittes and Kelley's results indicate that "lows" were antagonistic to their evaluators; but in order to avoid being expelled unpleasantly from the group, they conformed publicly. Since our "lows" were told they would remain in their role for the next three hours, and since there was no problem of an unpleasant expulsion, we hypothesized that low-rated subjects would express their antagonism [illegible] refusing to comply with the [illegible] ator. This hypothesis [illegible]

[27] Di[illegible]

the clerks were the evaluators. Subjects rated low by the clerks were the least likely to allow the clerks to omit required accuracy checks.

However, the supervisors rated low by management, instead of being most likely to express antagonism by deviating from management rules, were the greatest conformists. Several *ad hoc* explanations will be offered here. These explanations were tested and given some support in the larger study.[28]

First, this hypothesis depends on the subject believing that the very low evaluation will persist. Though the director's speech emphasized the fact that she would never change her mind "about a subject scoring this low," it is possible that the subject did not accept the finality of this one-time management evaluation and was motivated to counteract the rating by conforming.[29] On the other hand, the supervisors rated low by the clerks were with the clerks for an hour and could clearly perceive that no action of theirs would change the clerks' low evaluation.

Second, if the subject did not accept management's low evaluation as final, then the differential sanction power of management and the clerks also becomes relevant. Unlike management, the clerks naturally had no say over the possibility that the supervisor would be rehired if he acted properly. Thus, the subject given a low management rating might be particularly motivated to try to change the director's opinion.

Third, it is also possible that at the beginning of a new job all personnel, but particularly college students, tend to be oriented more to management and to be less easily antagonized by them than by the subordinates.

A fourth explanation derived from ex[illegible] after [illegible] I'll [illegible]

periments by J. Stacy Adams[30] will be presented here, although it could not be tested with our data. Adams indicates that interviewers on a relatively high-paid job who feel underqualified suffer from "cognitive dissonance." When they are being paid by the hour, they attempt to resolve this dissonance by increasing their productivity. In his experiments, these "experimental group" subjects were told by management that the Placement Office had "slipped up" in referring them—that they were badly underqualified. However, they were hired anyway and paid at the customary high rate ($3.50 an hour). Our low evaluation and his "underqualification" speech can be considered equivalent. Therefore, by conforming more to management rules, management "lows" may have been resolving cognitive dissonance—dissonance created by the discrepancy between a high hourly pay rate and their own lack of ability for the job. Clerk "lows" do not experience this same cognitive dissonance because they are not being rewarded highly by the clerks at the same time that they are given a low evaluation.

However, it should be noted that in both experiments the subjects were college-student newcomers to the job and probably were not easily antagonized by management.[31] Perhaps had the job been secure and of long duration and had the low evaluation of the subject been frequently reinforced, an antagonism to management would have developed that (1) would prove stronger than the attempt to resolve cognitive dissonance and (2) would lead the subject to low productivity and to deviation from management prescriptions.

Columbia University

[30] J. Stacy Adams, "Wage Inequities, Productivity and Work Quality," *Industrial Relations*, III, No. 1 (October, 1963), 9–16.

[31] For discussion of the validity of applying our experimental results to a real-life situation, see Simmons, *op. cit.*, p. 66.

IV. CONCLUSIONS

The major hypothesis confirmed by Dittes and Kelley in a small-group study seems to have been corroborated here also in an organizational setting of role conflict. The subject evaluated most highly was not the one who acceded most to his evaluator's wishes. Actually, the subject evaluated as average complied somewhat more with his management or clerk evaluator than the subject rated most highly. In the Dittes and Kelley experiment,[27] conformity involved expressing judgments in line with the norms of fellow group members and evaluators. This experiment, on the other hand, studied behavioral deviance from *organizational rules* when the evaluators were not peers differing only in informal rank, but were organizational superiors and subordinates. The Dittes and Kelley subjects were faced with a conflict between group pressure and group welfare, since, by deviating from the group norm and making more accurate judgments, subjects could help the group win a prize. Here, the conflict created was a typical organizational role conflict, opposing rules to workers' desires. And when we examine the evaluations of either the workers or management, present data give some evidence that highest-ranking supervisors feel freer than average supervisors to resolve the role conflict against the wishes of the evaluator, as predicted.

However, the reactions of the "lows" were complex insofar as public conformity was concerned. Dittes and Kelley's results indicate that "lows" were antagonistic to their evaluators; but in order to avoid being expelled unpleasantly from the group, they conformed publicly. Since our "lows" were told they would remain in their role for the next three hours, and since there was no problem of an unpleasant expulsion, we hypothesized that low-rated subjects would express their antagonism publicly by refusing to comply with the relevant evaluator. This hypothesis was confirmed when the clerks were the evaluators. Subjects rated low by the clerks were the least likely to allow the clerks to omit required accuracy checks.

However, the supervisors rated low by management, instead of being most likely to express antagonism by deviating from management rules, were the greatest conformists. Several *ad hoc* explanations will be offered here. These explanations were tested and given some support in the larger study.[28]

First, this hypothesis depends on the subject believing that the very low evaluation will persist. Though the director's speech emphasized the fact that she would never change her mind "about a subject scoring this low," it is possible that the subject did not accept the finality of this one-time management evaluation and was motivated to counteract the rating by conforming.[29] On the other hand, the supervisors rated low by the clerks were with the clerks for an hour and could clearly perceive that no action of theirs would change the clerks' low evaluation.

Second, if the subject did not accept management's low evaluation as final, then the differential sanction power of management and the clerks also becomes relevant. Unlike management, the clerks naturally had no say over the possibility that the supervisor would be rehired if he acted properly. Thus, the subject given a low management rating might be particularly motivated to try to change the director's opinion.

Third, it is also possible that at the beginning of a new job all personnel, but particularly college students, tend to be oriented more to management and to be less easily antagonized by them than by the subordinates.

A fourth explanation derived from ex-

[27] Dittes and Kelley, *op. cit.*

[28] See Simmons, *op. cit.*, chap. iv.

[29] One subject said to the director right after the evaluation, "Don't look so sad. Maybe I'll prove you wrong. Though I can see by your face that you don't think so."

periments by J. Stacy Adams[30] will be presented here, although it could not be tested with our data. Adams indicates that interviewers on a relatively high-paid job who feel underqualified suffer from "cognitive dissonance." When they are being paid by the hour, they attempt to resolve this dissonance by increasing their productivity. In his experiments, these "experimental group" subjects were told by management that the Placement Office had "slipped up" in referring them—that they were badly underqualified. However, they were hired anyway and paid at the customary high rate ($3.50 an hour). Our low evaluation and his "underqualification" speech can be considered equivalent. Therefore, by conforming more to management rules, management "lows" may have been resolving cognitive dissonance—dissonance created by the discrepancy between a high hourly pay rate and their own lack of ability for the job. Clerk "lows" do not experience this same cognitive dissonance because they are not being rewarded highly by the clerks at the same time that they are given a low evaluation.

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COLUMBIA UNIVERSITY

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[31] For discussion of the validity of applying our experimental results to a real-life situation, see Simmons, *op. cit.*, p. 66.

Patterns of Residence in Poona (India) by Income, Education, and Occupation (1937–65)[1]

Surinder K. Mehta

ABSTRACT

An analysis of the residential distribution of socioeconomic groups in Poona (India) shows distinct patterns that appear to have largely maintained themselves over a thirty-year span. There is a graded hierarchy in the extent of residential dissimilarity as one moves up the socioeconomic ladder, and segregation in residence is greatest for the highest and the lowest status groups. Unlike the situation in cities in the United States, the rich, the better educated, and those pursuing the higher-level occupations generally tend to be centralized, while those belonging to the low socioeconomic status groups are decentralized However, the extent of concentration in low-rent areas is negatively associated with status

This study is essentially a replication of the Duncans' study of patterns of residence in Chicago,[2] which has also inspired other studies of various cities in the United States[3] and in England.[4] These studies follow in the tradition of the well-known urban ecological studies of the Chicago School but utilize a methodology peculiarly suited to comparative urban analysis. It is essentially Park's insight that "social relations are so frequently and so inevitably correlated with spatial relations"[5] which has guided or, rather, provided a viewpoint for these studies.

The present study's scene shifts to an altogether different socioeconomic and cultural milieu, and it is in its comparative aspect that the real value of this study lies. Our effort here is to add to the literature one more study showing city residential patterns that are in some respects variant from the U.S. pattern and in other respects similar to it.

POONA—A BRIEF DESCRIPTION

Poona is situated in the western part of Maharashtra State, about 120 miles east-southeast of Bombay. The city "lies on an

[1] This study was carried out in India while the author was a 1965–66 Faculty Research Fellow of the American Institute of Indian Studies. The author also wishes to acknowledge his deep gratitude to the Gokhale Institute of Politics and Economics, Poona, which provided facilities without which this research could not have been carried out and where the staff fully accepted him as one of its own. Special thanks are due to Mrs. Kumudini Dandekar, who had new runs made of the data from the *Family Planning Evaluation Scheme Survey, Poona City, 1964–65* (Gokhale Institute) and made these data available for this study.

[2] Otis Dudley Duncan and Beverly Duncan, "Residential Distribution and Occupational Stratification," *American Journal of Sociology*, LX, No. 5 (March, 1955), 493–503. Also see their *The Negro Population of Chicago* (Chicago: University of Chicago Press, 1957).

[3] Arthur H. Wilkins, "The Residential Distribution of Occupation Groups in Eight Middle-Sized Cities in the United States in 1950" (unpublished Ph.D. dissertation, University of Chicago, 1956); Richard W. Redick, "Population Growth and Distribution in Central Cities, 1940–50," *American Sociological Review*, XXI, No. 1 (February, 1956), 38–43; Otis Dudley Duncan and Stanley Lieberson, "Ethnic Segregation and Assimilation," *American Journal of Sociology*, LXIV, No. 4 (January, 1959), 364–74; Stanley Lieberson, *Ethnic Patterns in American Cities* (Glencoe, Ill.: Free Press, 1963); Eugene S. Uyeki, "Residential Distribution and Stratification, 1950–60," *American Journal of Sociology*, LXIX, No. 5 (March, 1964), 491–98.

[4] Peter Collison and John Mogey, "Residence and Social Class in Oxford," *American Journal of Sociology*, LXIV, No. 6 (May, 1959), 599–605.

[5] Robert Ezra Park, "The Urban Community as a Spatial Pattern and a Moral Order," *Human Communities* (Glencoe, Ill.: Free Press, 1952), p. 177.

extensive plain, surrounded by singularly scraped hills from 1,900 to 2,300 feet high." From the north the Mula River comes to join the Mutha River, which flows from the southeast, and together they form the river which bounds the city proper on the north.

While mention is made of the Poona region in a copperplate inscription dated A.D. 758, "available historical records do not furnish a separate history of Poona City until well into the seventeenth century," although the city is probably hundreds of years older. The city has had a violent history. It has been sacked and much of it razed, only to rise and be sacked and razed again. In 1817 the English forces occupied Poona and soon thereafter established Poona Cantonment adjoining the eastern boundary, and Kirkee Cantonment to the north.[6] Under the British, Poona City, besides remaining the headquarters of Poona District, became the summer capital of the Bombay Presidency.

Poona experienced a period of rapid prosperous development and drew migrants from all over India in the latter half of the eighteenth century, which facts are reflections of its political position under the Peshwa rulers. With the fall of the Peshwas in the first quarter of the nineteenth century, Poona entered a period of political decline as well as of economic and demographic stagnation, which lasted until 1920 or so. Thereafter, with the growing importance of Poona as a military and political center under the British, and during the post-independence period, Poona's economic situation improved, and considerable growth in population occurred.[7]

In the last two decades, many new industries have located in Poona on the outer fringes of the city, and industrial estates have been established along highways radiating from it. Poona also serves as an administrative and transportation center and, to some extent, as a retail trade center. But pre-eminently, it is an educational center of national renown, and some of its research institutes have an international reputation.

Poona is thus an ancient Indian city that has in recent decades experienced European influence and some industrialization and modernization. It should, therefore, provide an especially interesting case study of changing patterns of residence.[8]

DATA AND METHODS

The Poona Municipal Corporation, comprising Poona City (eighteen wards), the suburban municipalities (two wards), and a number of outlying villages and communities (eight wards), but excluding the Poona and Kirkee cantonments, had roughly an area of forty-six square miles and a population of 278,000 in 1941. By 1961 the corresponding area had grown to about sixty-eight square miles comprised of some thirty-seven wards with a total population of 598,000.[9] In this study, what we call "Poona City" comprises the eighteen old wards of the city proper along with the two suburban municipality wards. In 1937 Poona City had a total area of fourteen square miles and a population of roughly 225,000. For purposes of comparison, we took the same wards to constitute Poona City in 1964–65 and added one adjoining ward with an area of one and one-half square miles and a population of about 8,900 in 1961. We added this ward because, unlike the wards comprising the surround-

[6] D. R. Gadgil, *Poona: A Socio-Economic Survey*, Part I: *Economic* (Gokhale Institute of Politics and Economics Publication No. 12 [Poona, 1945]), pp. 1–12.

[7] D. R. Gadgil, *Poona: A Socio-Economic Survey*, Part II (Gokhale Institute of Politics and Economics Publication No. 25 [Poona, 1952]), pp. 9–24.

[8] As the title of this paper indicates, we have not been able to study residential patterns by occupation, etc., prior to 1937. However, in another paper, on residential patterns by caste, we will present an analysis covering the years 1822, 1937, 1954, and 1965.

[9] N. V. Sovani, D. P. Apte, and R. G. Pendse, *Poona: A Resurvey* (Gokhale Institute of Politics and Economics Publication No. 34 [Poona, 1956]), Table 1.1, p. 2; Census of India, *1961 Census, Final Population Totals* (Paper No. 1 of 1962) Table V, p. 258; the area data were supplied by Dr. A. Bopegamage of the Gokhale Institute.

ing villages and industrial estates, it is well integrated in the residential community of the city and is eminently urban in character. In 1961 Poona City had a population of 531,000. What we call "Greater Poona" was somewhat larger but more or less coterminous with the aforementioned Poona Municipal Corporation area of 1961. The Poona and Kirkee cantonments, with a combined population of about 60,000 in 1937 and 124,000 in 1961, are altogether excluded from this study, as the requisite data were unavailable for 1937 and 1964–65.[10]

The 1937 survey, from which data for the present study are taken, was a random sample which took every fifteenth house, beginning with the first one on a listing of houses that was made for each of the eighteen wards for the city proper and adjoining suburban wards. All families[11] residing in a particular house were deemed to be part of the sample.

The 1964–65 data for this study are taken from the *Family Planning Evaluation Scheme Survey of Poona,* which was essentially a 1 per cent cluster-type random sample. Thus, compared to the 6–7 per cent random sample of 1937, the 1964–65 sample is subject to a greater statistical variance,[12] but at the same time it would tend to give a greater homogeneity to the characteristics of the population of each ward,[13] inasmuch as it was a cluster sample.

The methods employed for studying the patterns of residential distribution in Poona are the same as those employed by the Duncans in their study (see n. 2 above) of residential patterns in Chicago. The interested reader may refer to it for details; they are briefly recapitulated here, with some additional comments.

Index of dissimilarity.—This index measures the extent of non-overlap in the patterns of residence of any two groups, and ranges from zero to one hundred.

Index of segregation.—This index is similar to the index of dissimilarity, except that now the residential distribution of a given group is compared to the residential distribution of all the other groups taken together.

The problem of choosing the appropriate areal units for research on patterns or degrees of segregation has been dealt with by a number of writers,[14] and it is a vexing one indeed. Theoretically, it can be seen that, for a given city, if the number of areal units is increased by choosing very small units (for instance, dwelling units or, more strictly still, the spaces occupied by individual persons) for research, then complete segregation or dissimilarity will be found, and the value of the indexes will be one hundred; if, on the other hand, the areal unit chosen is so large as to encompass the city as a whole, then no segregation or dissimilarity will be found, and the index values will be zero.[15] This also points

[10] This omission of the two cantonment areas, considering their unique characteristics and their European populations, is most unfortunate.

[11] The family was defined as "any group of persons living together as a separate economic unit" (Gadgil, *Poona:* Part I, p. 40).

[12] In 1937 a total of 4,529 families were interviewed; in 1964–65 a total of 1,176 households were in the sample, and a total of 1,444 couples in these households were interviewed. Wherever the tables in this article show the corresponding sample numbers to be lower than these figures, this is due to the lack of relevant data for part of the sample.

[13] Throughout this study the residential patterns of the population are studied on the ward basis.

[14] An excellent discussion of this topic and a review of the pertinent literature is to be found in Karl E. Taeuber and Alma F. Taeuber, *Negroes in Cities: Residential Segregation and Neighborhood Change* (Chicago: Aldine Publishing Co., 1965), Appendix A.

[15] The shape of the areal units, even if the areal size of the units is kept constant, will affect the index value. For further discussion of this general problem, see John K. Wright, "Some Measures of Distributions," *Annals of the Association of American Geographers,* XXVII, No 4 (December, 1937), 177–211. Also see Otis Dudley Duncan and Beverly Duncan, "A Methodological Analysis of Segregation Indexes," *American Sociological Review,* XX, No. 2 (April, 1955), 210–17; and the communications to the editor entitled "In Defense of a Segregation Index" (by Donald O. Cowgill) and "On Assessing Segregation Indexes" (by Karl E. Taeuber) in *American Sociological Review,* XXVIII, No. 3 (June, 1963), 453–54.

to the fact that the index measures only the degree of interareal-unit segregation and does not measure the extent of intra-areal-unit segregation.

We may also point out that the more natural the areal units (natural in the ecological or sociocultural sense as opposed to units that are arbitrary, such as those resulting from imposing a grid on a map of a city) chosen for research on segregation, the greater the tendency for the index values to be large. And the more refined or smaller the population groups (for instance, detailed occupation groups versus major occupational ones) under study, the greater the tendency for the index values to be large.

Index of centralization.—This index measures the extent to which a given group is centralized with respect to the rest of the population. The areal units are classified and ordered by distance zones, from closest to farthest and beginning from the center. Let X_i be the cumulated percentage distribution of group A with the ordering of the areal units as specified, and let Y_i be the corresponding cumulated percentage distribution for the total population. Then the "unadjusted" index of centralization for group A will be

$$\Sigma(X_{i-1}Y_i) - \Sigma(Y_{i-1}X_i),$$

and the "adjusted" index would be this quantity divided by one, minus the proportion of the total population that group A comprises.[16] The index value ranges from one hundred to minus one hundred, with the positive sign indicating centralization and the negative sign showing decentralization of the given group with respect to all other groups in the population. It should be mentioned that the value of the index has a tendency to increase slightly as the number of concentric zones is increased by narrowing their widths.

Index of low-rent-area concentration.—This index is computed in the same manner as the index of centralization, except that now the ordering of the areal units is from those with the lowest rent to those with the highest. A negative index value indicates that the given group is relatively less concentrated in low-rental areas with respect to the remainder of the city's population, while a positive index value indicates the contrary.

RESIDENTIAL PATTERNS BY INCOME

Studies of cities in the United States, Latin America, and Europe have shown that the patterns of residential distribution differ among socioeconomic groups.[17] The patterns of residential distribution differ among the various groups, presumably because of differences in ability to afford housing amenities and surroundings, prestige-maintenance pressures, cultural preferences, and discrimination. As a guiding hypothesis we maintain that social, economic, and cultural forces operate in *all* urban environments, irrespective of the milieu, and that these forces sift and sort population groups in such a manner that characteristic residential patterns emerge. The specific patterns that emerge in different socioeconomic and cultural milieus within various cities may, however, differ.

For Poona City we note that in 1937 (see Table 1) a clear pattern of dissimilarity in residential distribution exists among income groups, and a clear pattern of segregation is also apparent.[18] If in-

[16] This adjustment increases the unadjusted index value to one that would be obtained if Y_i, instead of representing the cumulated percentage distribution of the total population, represented the cumulated percentage distribution of the total population, less the population of group A. This procedure of computing the "unadjusted" index first and then adjusting it saves a great deal of computational work. This also applies to the index of segregation.

[17] Some of these studies will be cited for comparative purposes at relevant points in the text of this paper.

[18] As mentioned previously, throughout this study the areal unit employed in the analysis is the ward. In fact, this is the only type of intracity unit for which any data are available. Historically, most of the eighteen wards of the old city of Poona and some of the newly created wards were more or less natural ecological and/or cultural areas, although the delimitation was to some extent based on considerations of administrative convenience. Many of the newly delimited wards of Greater

come is one factor that differentiates families in their patterns of residence in a consistent and predictable manner, then moving from left to right and from bottom to top from the diagonal in the table, and taking successive pairs of index-of-dissimilarity values, one should find that the second value in each pair tends to be the larger one.[19] Our findings, with a few exceptions, are highly consistent with our expectations.

The indexes of segregation in Table 1 depict a U-shaped pattern, moving from the lowest to the highest income group. When the Duncans ordered occupational groups by socioeconomic status in their Chicago study, they noted a similar U-shaped segregation pattern; Uyeki found the same phenomenon in his Cleveland study.[20]

The patterns of residential dissimilarity and segregation found for Poona City in 1937 are also found for the city and for Greater Poona in 1964–65, over a quarter of a century later (see Table 2).

Indexes of centralization and of low-rent-area concentration for income groups are presented in Table 3.[21] The sets of indexes of centralization for Poona City (1937 and 1964–65) and for Greater Poona (1964–65) clearly show that the pattern of centralization by income is the exact opposite of that found in cities in the United States today. However, in their earlier stages, most U.S. cities had their high-rent residential areas much closer to the city center than they do today.[22] In Oxford, England, Collison and Mogey found that people of the highest social class live closest to the center of the town.[23] Many Continental European cities also show the same phenomenon.[24] Studies of Latin-American cities have also shown the desirability of residing near the plaza or at other locations (on high ground perhaps) near the center of the city.[25]

Poona, however, are delimited mostly for administrative purposes, on an *ad hoc* basis, when they are incorporated into the Poona Municipal Corporation area; on the other hand, some of the newly added wards consist of clearly recognizable communities.

[19] It should be pointed out that mathematically the successive pairs of index-of-dissimilarity values are not independent (see Lieberson, *op. cit.*, pp. 38–40 *et passim*).

[20] Duncan and Duncan, "Residential Distribution and Occupational Stratification," *op. cit*; and Uyeki, *op. cit.* The only income group which is different from the regularity of the U-shaped pattern is group II, which also deviates from the expected pattern of indexes of dissimilarity in our study. The reason for the deviancy of this income group may be that it contains most of the domestic servants' families, who are often given residential quarters within the compound of the employing family's residence or who reside close by.

[21] For purposes of computing the indexes of centralization, we chose as the center of the city a point in one of the oldest wards of Poona. This ward, called Budhwar Peth, forms the city's core and is the heart of its business district. From the point chosen as the center, we drew concentric distance zones on a map of the city and thus ordered the wards by distance from the center. Whenever a given ward fell in two or more distance zones, which was often the case, it was deemed to fall wholly in that zone which contained the major portion of its area. If the major portion of the ward's area did not clearly fall within any one zone, then it was deemed to belong to that zone which contained the central swath of the swaths cut by the various zonal lines.

[22] Cf. Homer Hoyt, *The Structure and Growth of Residential Neighborhoods in American Cities* (Washington, D.C.: Federal Housing Administration, 1933); and the series of land-use maps of Detroit presented by L. S. Wilson, "Functional Areas in Detroit, 1890–1933," *Papers of the Michigan Academy of Science, Arts, and Letters*, XXII (1947), 399–408, and reprinted in Amos H. Hawley, *Human Ecology: A Theory of Community Structure* (New York: Ronald Press, 1950), pp. 386–90.

[23] *Op. cit.* However, though this was in a general way the case for the town as a whole, in at least two out of five sectors of the town the most centralized people were those belonging to the lowest class.

[24] Some of these studies are reprinted in George A. Theodorson (ed.), *Studies in Human Ecology*, Part III: "Cross-Cultural Studies" (New York: Row, Peterson, 1961). Also see Dennis C. McElrath, "The Social Areas of Rome: A Comparative Analysis," *American Sociological Review*, XXVII, No. 3 (June, 1962), 376–91.

[25] Some examples of these studies are: Theodore Caplow, "The Social Ecology of Guatemala City," *Social Forces*, XXVIII (December, 1949), 113–35; Asael T. Hansen, "The Ecology of a Latin Ameri-

TABLE 1

Indexes of Dissimilarity and Segregation in Residential Distribution for Sample Families Grouped by Annual Income, Poona City, 1937

Income Groups (in Rupees)	Index of Dissimilarity among Income Groups: II	III	IV	V	VI	VII	VIII	IX	X	Index of Segregation from All Other Families	Number of Families in Group
I. <Rs. 100	21	27	27	32	33	39	43	41	46	28	280
II. 100– 150	.	16	13	16	17	26	30	32	38	12	379
III. 150– 200	.	...	12	21	18	27	30	36	43	15	544
IV. 200– 300	...	...	.	16	17	27	32	34	40	14	932
V. 300– 400	...	...	..	...	12	21	26	31	41	13	757
VI. 400– 500	..	.	.	.	.	19	28	29	39	11	387
VII. 500– 750	..	..	.	.	..	..	18	14	30	20	494
VIII. 750–1,000	...	..	.		.	.	.	23	36	25	192
IX. 1,000–2,000	..	.	..	...	.	.	.	..	21	27	321
X. 2,000+	...	..	....	....	.	..	..	.	.	37	190
Total number of families in sample											4,529*

* Includes fifty-three families for whom income data were unavailable.

Source of basic data: D. R. Gadgil, *Poona. A Socio-economic Survey*, Part II (Poona, 1952). Henceforth, this source will be identified as *Poona*, Part II, and the companion volume to this will be identified as *Poona*, Part I.

TABLE 2

Indexes of Dissimilarity and Segregation in Residential Distribution for Sample Couples Grouped by Monthly Income, Poona City and Greater Poona, 1964–65*

Income Groups (in Rupees)	Index of Dissimilarity among Income Groups: I	II	III	IV	V	VI	VII	Index of Segregation from All Other Couples	Number of Couples in Sample
I. Up to Rs. 50	.	28	33	46	49	47	59	32	94
II. 51–100	29	.	19	32	35	41	54	19	424
III. 101–150	38	23	.	30	29	33	59	18	232
IV. 151–200	49	34	32	.	20	26	39	27	112
V. 201–250	52	37	35	21	.	21	45	29	57
VI. 251–350	50	43	37	28	25	...	43	33	51
VII. 350+	64	61	65	46	49	47	.	51	46
Index of segregation from all other couples	33	22	22	30	33	35	58	.	1,016†
Number of couples in sample	124	508	278	120	59	54	55	1,198†	....

*Poona City figures are above the diagonal, Greater Poona figures are below the diagonal

† Excluding 246 couples whose income or ward of residence was not ascertained or recorded.

Source of basic data. Gokhale Institute's *Family Planning Evaluation Scheme Survey* for Poona

Thus, it is clear that universally the most pervasive ecological pattern of cities is one where the elite tend to reside near the center of a city rather than in the periphery. However, nearly all of the studies of European and Latin-American cities have shown that there is a tendency, to a lesser or greater degree, for the traditional pattern of the desirability of city-center residential location to change toward the current U.S. pattern. This also seems to be the case in Poona as far as the highest income group is concerned.[26]

Within Poona City, while the relatively high income groups have continued to remain centralized from 1937 to 1964–65, the highest income people have definitely become decentralized in their residential loca-

can City," in E. B. Reuter (ed.), *Race and Culture Contacts* (New York: McGraw-Hill Book Co., 1934), pp. 124–42; Harry B. Hawthorn and Audrey E. Hawthorn, "The Shape of a City. Some Observations on Sucre, Bolivia," *Sociology and Social Research,* XXXIII (November–December, 1948), 87–91; and Norman S. Hayner, "Mexico City: Its Growth and Configuration," *American Journal of Sociology,* L, No. 4 (January, 1945), 295–304. For a comparative analysis of residential patterns of North American and Latin-American cities, see Leo F. Schnore, "On the Spatial Structure of Cities in the Two Americas," in Philip M. Hauser and Leo F. Schnore (eds.), *The Study of Urbanization* (New York: John Wiley & Sons, 1965), pp. 347–98. The tendency for the elite to be centralized in their residential locations has been noted in other Indian cities. See the study of Bangalore, a city somewhat larger than Poona, by Noel P. Gist, "The Ecological Structure of an Asian City: An East-West Comparison," *Population Review,* II, No. 1 (January, 1958), 17–25, and the study of Howrah by A. B. Chatterjee, "Ecological Structure of Calcutta's Twin," *National Geographical Journal of India,* XI, Part II (June, 1965), 59–62. Also see John E. Brush's article entitled "The Morphology of Indian Cities," in Roy Turner (ed.), *India's Urban Future* (Berkeley: University of California Press, 1962), pp. 57–70. However, the authors of a recent study of Gorakhpur, a city which experienced rapid growth between 1951 and 1961, noted that "in the farthest circle of residential zone lie the habitations of the elite groups" (see Radhakamal Mukerjee and Baljit Singh, *A District Town in Transition: Social and Economic Survey of Gorakhpur* [Bombay: Asia Publishing House, 1965]).

[26] Of course, in Table 3, neither the data nor the income classes for 1937 are directly comparable with those for 1964–65. But there is other evidence available to support this conclusion. For instance, in Poona City in 1937, of the three highest rent-area wards, one had a peripheral location, one was close to the center, and one had a median location, whereas the three wards with the lowest rent areas were all peripherally located Comparable data for 1954 (data for 1964–65 are lacking) show that, of the three highest rent-area wards, two were peripherally located and one had a median location; whereas, of the five wards with the lowest

TABLE 3

INDEXES OF CENTRALIZATION AND LOW-RENT-AREA CONCENTRATION FOR FAMILY INCOME GROUPS WITH RESPECT TO TOTAL SAMPLE POPULATIONS, POONA CITY, 1937 AND 1964–65, AND GREATER POONA, 1964–65

Families Grouped by Annual Income (in Rupees)	Index of Low-Rent-Area Concentration, Poona City, 1937	Index of Centralization, Poona City, 1937	Couples Grouped by Monthly Income	Index of Centralization: Poona City 1964–65	Index of Centralization: Greater Poona 1964–65
I. <Rs. 100	12.9	−14.6	I. Up to Rs. 50	−9.2	−14.6
II. 100– 150	5.0	−4.6	II. 51–100	−9.7	−10.1
III. 150– 200	1.0	−8.2	III. 101–150	8.3	3.6
IV. 200– 300	7.9	−9.8	IV. 151–200	5.7	12.1
V. 300– 400	0.4	0.8	V. 201–250	16.8	24.2
VI. 400– 500	−2.9	1.9	VI. 251–350	21.4	26.9
VII. 500– 750	−7.2	16.9	VII. 351+	−14.6	−6.9
VIII. 750–1,000	−1.2	19.2			
IX. 1,000–2,000	−12.6	17.0			
X. 2,000+	−26.4	−0.1			

Source of basic data: *Poona,* Part II, and *Family Planning Evaluation Scheme Survey.*

tion pattern, although in 1964–65 the extent of their decentralization was less in the Greater Poona area as compared with the Poona City area. What has happened is that some of the heavily built-up central wards which were medium-to-high rental areas in 1937 have become low-rental areas by now, while many of the peripheral wards which had large empty spaces have experienced a boom in the building of spacious modern houses for the elite. Many houses for the elite are also going up in the most distant peripheral sections (beyond Poona City) of Greater Poona, but these areas also contain slumlike communities, in which, by tradition, members of the depressed castes live.[27] Also in these areas are the *bastis* of the newly-arrived unskilled laborers and peons employed by the industries that have lately sprung up along the highways and railroad lines to the city. The new and fashionable residences of the upper-income group house some of the old elite who have moved from their old central ward locations; but these residences also house the managerial and technical elite who have recently come to Poona.

rent areas (three wards were tied for the third lowest rent rank), two were peripherally located, two had median locations, and one was Budhwar Peth, in the center of the city.

RESIDENTIAL PATTERNS BY EDUCATION

We have no adequate data on the educational characteristics of the population by residence for Poona in 1937. The data for 1964–65, however, show that the observed patterns of residence by levels of educational attainment (see Tables 4 and 5) are

[27] The peripheral residential location of depressed castes has been noted in Bangalore by Gist, *op cit* In a study under way, we have found a similar phenomenon to have existed in Sholapur in 1938 In Greater Bombay today, it is quite evident to any observer who has taken the trains running from Bombay Island to the suburban areas toward the north that the poor, members of the depressed castes, and members of the Scheduled Tribes are to be found in great numbers living in unbelievably tiny, dirty, ramshackle houses made out of bits of wood, gunny sacks, or mud, and squeezed together on narrow strips of filthy, empty land along one or both sides of the railway tracks In the identification of the population groups squatting here (who sometimes pay high rents to landowners for the privilege of being allowed to stay there), some familiarity with information in the 1961 census is very helpful (see *Census of India, 1961*, Vol X: *Maharashtra, Part X [1-B], Greater Bombay Census Tables* [Bombay: Government Central Press, 1964]).

TABLE 4

INDEXES OF DISSIMILARITY AND SEGREGATION IN RESIDENTIAL DISTRIBUTION FOR COUPLES GROUPED BY EDUCATION OF HUSBANDS, POONA CITY AND GREATER POONA, 1964–65*

Educational Level Groups	Index of Dissimilarity among Educational Level Groups					Index of Segregation from All Other Couples	Number of Couples in Sample
	I	II	III	IV	V		
I. Illiterate		27	45	55	60	36	156
II. Literate up to 7th standard	27		28	40	54	26	513
III. Above 7th standard but below S.S.C.†	45	29		28	51	25	98
IV. S.S.C. but below graduate	59	43	29		27	31	242
V. Graduate or above, technical degree, diploma, etc.	63	55	51	29		45	110
Index of segregation from all other couples	36	25	25	37	48		1,119‡
Number of couples in sample	217	624	308	252	123	1,524‡	

* Poona City figures are above the diagonal, Greater Poona figures are below the diagonal.

† S.S.C. = secondary school certificate.

‡ Excluding 120 couples for whom ward of residence or education of husband was not known.

Source of basic data: Same as Table 2.

TABLE 5

INDEXES OF CENTRALIZATION FOR COUPLES GROUPED BY EDUCATION OF HUSBANDS WITH RESPECT TO ALL COUPLES IN SAMPLE, POONA CITY AND GREATER POONA, 1964–65

Educational Level Groups	Index of Centralization	
	Poona City	Greater Poona
I. Illiterate...........	−23.1	−29.3
II. Literate up to 7th standard....	− 3 0	− 5.0
III. Above 7th standard but below S.S.C.*..	15.9	19 1
IV. S.S.C. but below graduate	14.7	21 3
V. Graduate or above, technical degree, diploma, etc....	− 3.3	6.2

* S S C. = secondary school certificate.
Source of basic data. Same as Table 2.

in confirmation of the patterns of residential distribution by income groups.

RESIDENTIAL PATTERNS BY OCCUPATION

Table 6 shows the major occupational groups for which residential location data were available for 1937, in the order of their rank by socioeconomic status. No relevant 1964–65 data comparable to those for 1937 are available for ranking the occupational groups by socioeconomic status. It may be presumed, however, that the major occupational groups have in general maintained their relative rankings.[28]

[28] From comparable data available from a 1953–54 survey of Poona, we ranked the occupational groups by socioeconomic status and found only one change in the relative rankings of groups: group IV, the lowest professional and administrative posts, had moved from an unweighted mean rank of 4.5–5.3 higher than for group V, which tied it with the mean rank for group VI. These data are taken from Sovani, *et al.*, *op. cit.*, pp. 164–213, 411, and 416–17.

TABLE 6

SELECTED INDICATORS OF SOCIOECONOMIC STATUS FOR FAMILIES GROUPED BY MAJOR OCCUPATION GROUP OF HEAD OF HOUSEHOLD, POONA CITY, 1937

Major Occupation Groups	Annual Income in Rupees		Proportion Belonging to High Castes*		Proportion Belonging to All Depressed Castes		Proportion of Earners Who Are Literate†		Unweighted Mean of Four Rankings
	Median	Rank	%	Rank	%	Rank	%	Rank	
I. Beggars and prostitutes	158	1	4.4	1	22 1	1	18 5	1	1 0
II. Unskilled manual workers...	182	2	4.8	2	20 4	2	25 4	2	2 0
III. Skilled manual workers	281	4	5.4	3	12 4	3	39 9	3	3 3
IV. Lowest professions and administrative posts.	277	3	32 6	6	9 1	4	84.2	5	4 5
V. Small business	282	5	8 6	4	4 8	6	48 3	4	4 8
VI. Highly skilled and supervisory manual	393	6	20 4	5	5 1	5	85 4	6	5 5
VII. Medium business ..	776	8	47.1	7	0 9	9	92 2	7	7 8
VIII. Clerks and shop assistants	546	7	57.0	8	1 4	8	98 0	10	8 3
IX. Pensioners.....	1,052	9	57.8	9	2.5	7	94 7	8	8 3
X. Intermediate professions and administrative posts	1,406	10	62.9	10	0.0	10.5	98 0	10	10 1
XI. Highest professions, owners of factories and large shops	2,000+	11	77.0	11	0.0	10.5	98 0	10	10 6
All occupations	314	.....	22.2	....	9 5	...	57.1	....	... ..

* Of the groupings by caste made in the Poona study, the highest caste was, of course, the Brahmins, and we judged the next highest group to be the one which consisted of Gujaratis, Marwadis, and Jains. We have combined these groups for our indicator of socioeconomic status.

† Whereas the other three indicators are based on characteristics of the family, this indicator refers to all earners.

Source of basic data *Poona*, Part I, and *Poona*, Part II.

TABLE 7

INDEXES OF DISSIMILARITY AND SEGREGATION IN RESIDENTIAL DISTRIBUTION FOR SAMPLE POPULATIONS GROUPED BY OCCUPATION, POONA CITY, 1937 AND 1964-65, AND GREATER POONA, 1964-65*

MAJOR OCCUPATION GROUPS	INDEX OF DISSIMILARITY AMONG MAJOR OCCUPATION GROUPS											INDEX OF SEGREGATION FROM ALL OTHER FAMILIES OR COUPLES	NUMBERS OF FAMILIES OR COUPLES
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI		
I. Beggars and prostitutes		49 *x*†	56 *x*	57 *x*	48 *x*	61 *x*	53 *x*	58 *x*	64 *x*	63 *x*	63 *x*	54 *x*	68 *x*
II. Unskilled manual workers	x†		14 *35*	19 *42*	20 *45*	29 *22*	27 *45*	33 *47*	43 *x*	45 *50*	44 *63*	19 *35*	943 *234*
III. Skilled manual workers	x	36		23 *40*	22 *38*	29 *21*	29 *39*	37 *38*	46 *x*	48 *41*	45 *62*	22 *22*	914 *114*
IV. Lowest professions, etc.	x	45	41		26 *63*	19 *46*	24 *52*	22 *61*	28 *x*	29 *54*	33 *70*	13 *46*	350 *67*
V. Small business	x	52	44	64		22 *31*	15 *40*	29 *44*	41 *x*	41 *42*	48 *52*	17 *35*	560 *27*
VI Highly skilled, etc.	x	30	23	45	35		18 *35*	23 *37*	33 *x*	31 *38*	39 *59*	19 *16*	333 *133*
VII. Medium business	x	47	38	51	46	37		22 *36*	39 *x*	36 *45*	43 *56*	17 *32*	342 *131*
VIII. Clerks and shop assistants.	x	53	42	61	47	39	38		19 *x*	17 *29*	36 *42*	22 *32*	421 *89*
IX. Pensioners ...	x	x	x	x	x	x	x	x		15 *x*	36 *x*	35 *x*	121 *x*
X. Intermediate professions, etc	x	59	44	57	48	40	47	33	x		38 *39*	34 *37*	143 *91*
XI. Highest professions, owners, etc.	x	67	64	70	56	62	57	42	x	45		37 *52*	76 *25*
Index of segregation from all other couples	x	38	23	43	41	19	34	35	x	42	55	...	4,529‡
Number of couples in samples	x	326	132	75	30	148	148	91	x	101	26	1,077	*911*§

* Poona City 1937 figures are above diagonal (upper rows), Poona City 1964-65 figures are above diagonal (italicized lower rows), Greater Poona 1964-65 figures are below diagonal.

† Requisite data for computing the index were not available.

‡ Including 255 families with no earners and three families where occupation of head of household was unclassified.

§ Excludes 367 couples whose ward of residence was not known or where the husband was following an agricultural occupation, was a student, unemployed, retired, or his occupation was not known

Sources of data: *Poona*, Part II, and *Family Planning Evaluation Scheme Survey*

Table 7 gives the indexes of dissimilarity and segregation for the eleven major occupational groups, listed in the order of their rank on our socioeconomic status scale. Concerning the indexes of dissimilarity, it is clearly evident that the occupational groups were distinctly differentiated in an expected manner in their residential patterns in this city in 1937 and continue to remain differentiated in a similar fashion.[29] Regarding the three sets of indexes of segregation, each set is, more or less, in accordance with our expectations.

Table 8 gives the indexes of low-rent-area concentration and indexes of centralization for the occupational groups. The patterns of residential location observed here for the occupational groups are similar to those observed for income and educationag groups and need no furtrer comment. Mention should be made of group XI, the highest status occupational category. For the Poona City area, this group showed a slight degree of decentralization in 1937 as well as in 1964–65. However, whereas in 1937 this group was in fact somewhat concentrated in wards lying close to the city center, by 1964–65 this group was underrepresented in the central and nearby wards, with a large proportion of its members in the outer, but not in the most peripheral, wards of Poona City and Greater Poona.

TABLE 8

INDEXES OF CENTRALIZATION AND LOW-RENT-AREA CONCENTRATION FOR MAJOR OCCUPATION GROUPS WITH RESPECT TO TOTAL SAMPLE POPULATIONS, POONA CITY, 1937 AND 1964–65, AND GREATER POONA, 1964–65

Major Occupation Groups*	Index of Low-Rent-Area Concentration Poona City, 1937	Index of Centralization		
		Poona City, 1937	Poona City, 1964–65	Greater Poona, 1964–65
I. Beggars and prostitutes	13.1	−22.1	x†	x
II. Unskilled manual workers	5.0	−20.2	−21.2	−32.4
III. Skilled manual workers	2.8	−18.4	−3.2	−0.8
IV. Lowest professions, etc.	3.7	3.3	−22.1	−14.9
V. Small business	4.7	8.5	16.4	18.4
VI. Highly skilled, etc.	−5.8	20.7	−2.1	4.2
VII. Medium business	−10.2	16.4	27.4	21.9
VIII. Clerks and shop assistants	−10.9	17.1	16.8	27.0
IX. Pensioners	−2.8	16.3	x	x
X Intermediate professions, etc.	−5.2	12.3	11.5	17.2
XI. Highest professions, owners, etc.	−15.1	−5.3	−6.3	6.8

* Families grouped by occupation of head of family for 1937, and couples grouped by occupation of husband for 1964–65

† Requisite data unavailable

Sources of basic data. *Poona*, Part II, and *Family Planning Evaluation Scheme Survey*

CONCLUDING REMARKS

Our study of Poona shows findings that are remarkably consistent with ecological theory. Patterns of residential distribution by income, education, and occupation groups show that residential dissimilarity increases between groups in correspondence with increasing disparity between any two groups in terms of these indicators of socioeconomic status.[30] Regarding segrega-

[29] Differential residential patterns by occupation in some of the Indian cities have been briefly referred to by Gist, *op. cit.*; Mukerjee and Singh, *op. cit.*; Meera Guha, "The Morphology of Calcutta," *Geographical Review of India*, XV, No. 3 (September, 1953), 20–28; and Howard F. Hirt, "Spatial Aspects of the Housing Problem in Aligarh, U.P., India," *Population Review*, II, No. 1 (January, 1958), 37–45.

[30] These indicators are not, of course, independent of each other. In fact, it would have been revealing also to study the patterns of residence by each

tion, the index values describe a characteristic U-shaped pattern as one moves from lower to higher socioeconomic status groups. As might have been expected, the higher-status groups, compared with the lower-status groups, are less concentrated in the low-rental areas of Poona.[31] In general, this summarization of the findings applies to Poona City for 1937 and 1964–65 and to Greater Poona for 1964–65.[32] We would now like to present a few remarks for discussion concerning centralization of population groups.

In the cities of the United States, the upper, and even the middle, classes started to decentralize their residential locations from forty to fifty years ago—earlier than elsewhere in the world. This occurred because of the rapid growth of the cities and the consequent congestion, dilapidation, and encroachment of business on erstwhile desirable residential areas near the center of cities. At times when incomes in the cities were rapidly increasing, the big cities in the United States experienced a large influx of immigrants from Europe and migrants from those parts of the country that lagged behind in economic development. Later, the Negro population, as well as some Puerto Ricans, started coming to the cities. Successive waves of these in-migrants settled, to greater or lesser extent, in the deteriorating areas near city centers. The in-migrants were unable to find housing elsewhere in the cities because of their low incomes and because of discrimination; furthermore, many of them wished to live side by side with people of their own ethnic or racial backgrounds. The influx of these in-migrants in turn led to an increased exodus of the middle and upper classes to outlying residential areas. These classes were given greater incentive to sell their property and move because of the increases in land prices resulting from the expansion of the central business district, the ready market that the in-migrants constituted for their houses, and because of their ability to purchase expensive new housing elsewhere in, or just outside of, the city. Of course, one of the most important factors operating in the suburbanization of the population was the early development of fast and efficient means of communication (for example, the telephone), public transportation and private transportation (namely, the automobile). Whereas commuter trains and trolleys enabled communities to grow up along these lines of transportation, the automobile allowed communities to flourish in the interstices.

In the last ten years, there has appeared in some U.S. cities a tendency for some of the higher socioeconomic status people to return to residential localities near city centers. This incipient reversal of the prevailing patterns of residential location by class is due to the fact that as more and more of the population—including members of the lower-middle class—has encroached upon the outlying residential districts and suburbs, the previous residents of these areas have been pressed to move farther and farther out. This has in turn led to impractical increases in commuting distances, transportation costs and commuting time. These people are having to face a growing dilemma: either they can continue to move out farther and preserve

of these indicators of socioeconomic status while at the same time controlling for one or both of the other two indicators, but we were unable to do this for lack of suitable data

[31] For the Indian scene, one of the most important factors that affect the ecological patterns of residence is caste. We are now in the process of analyzing caste patterns of residence in Poona and Sholapur cities and shall report our findings in the near future For lack of space we could not incorporate the analysis by caste in the present paper.

[32] The reader may have noted that index values for dissimilarity, segregation, and centralization are generally higher in 1964-65 compared with 1937. It is quite possible that Poona has undergone increased residential differentiation of socioeconomic groups as the city experienced much new physical expansion, rapid population growth, rising incomes, and the development of a fairly efficient intracity transportation system. On the other hand, the increase in the index values may be a reflection of the 1964–65 cluster-type random sample

their suburban way of life or they can return to the inner redeveloping areas of the city and readopt urbanism as a way of life. People in many cities (Philadelphia, for example) have begun to choose the latter and are "returning home."

In a number of European cities, the process of suburbanization of the upper and middle classes can also be seen, but it is of recent origin. Western European cities experienced much of their growth earlier than U.S. cities at a time when means of communication and transportation were rudimentary and expensive. Furthermore, the rates of city growth were generally lower then than they were when the United States started on the path of rapid industrialization and urbanization. The consequence was that deterioration and dilapidation of residential areas in western European cities did not occur, or occurred only very gradually, and the upper classes continued to remain in the city. Only in recent years, because of increased affluence and the ubiquitous automobile, has the suburbanization of the upper classes started. In some of the Latin-American cities, suburbanization of the upper and middle classes has also begun to take place, as essentially the same set of factors that led to suburban growth in the United States has begun to operate in these cities. The same process may well have begun in the eastern European cities; it has certainly made its appearance in southern Europe.

In Indian cities, decentralization of the upper classes, not to mention the middle classes, has hardly made an appearance. The reason for this is that urban growth rates have in general not been high, means of communication and transportation are rudimentary at best, and the in-migrants to the cities have such low purchasing power that they cannot buy houses in or near a city center, or anywhere else for that matter; they are forced to settle on outlying tracts of vacant land, to build their shacks on patches of land within the city (but away from the city center), or to become pavement dwellers. In almost all large Indian cities, these three patterns of residential location (if pavement dwelling can be described as "residential") coexist among the poor in-migrants. Furthermore, since economic mobility is so low, the middle classes, and even the upper classes, have not been able to "trade up" in their "consumption" of houses, and either the slow or the expensive means of intracity transportation, or both, have contributed to the desirability of residential location remaining close to the city center. Finally, the traditional caste structure, tied up as it has been with economic and social power, favors residential centralization for the upper castes and relegation of outlying areas to the lower castes and the untouchables. City-center location makes the separation of residence from place of work minimal for those who can afford the high land prices; provides security in times of unrest and violence in the countryside; and enables residents to enjoy what the city has to offer. The poor have to live outside the city and must therefore spend a larger share of their time and money to bring their wares and produce to the city market or to work at menial tasks in the city.[33]

In a city such as Poona, however, which has, in recent years, grown rapidly, found new industrial wealth, developed a fairly efficient bus transportation system, and acquired a fleet of motorized rickshaws, some taxis, and a number of private automobiles, the elite have started to decentralize in their choice of residential location.

University of Pennsylvania

[33] In the United States, the lower classes may someday be pushed out of their city homes as real estate prices shoot up as a consequence of the renovation of entire city neighborhoods, the building of new town houses, and the erection of expensive high-rise apartment buildings. At such a time, U.S. poor will also have to spend a larger share of their time and money getting to the city from the suburban homes to which they will have been relegated.

Path Analysis: Testimonial of a Proselyte[1]

Charles E. Werts

ABSTRACT

The technique of path analysis, recently introduced into the sociological literature by Duncan, can be a powerful aid in clarifying complex causal arguments. To demonstrate this point, a study by Davis of the effect of college "selectivity" on career aspirations was reconsidered from the standpoint of a path analytic model.

This paper will testify to the value of path analysis in clarifying complex causal arguments, such as those advanced by Davis in his study of "relative deprivation" in a college setting.[2] The three crucial variables in Davis' version of relative deprivation theory are School Quality (academic ability level of the college attended), College Grade Point Average (GPA), and Career Choice (the selection of high-performance career fields—physical, biological, and social sciences; humanities and fine arts; law; and medicine—versus all other fields) at the time of graduation. A heuristic model of the causal relationships among these variables is depicted in Figure 1. Implicit in Davis' theory are the assertions that (*a*) the relationship, School Quality→GPA, is negative, which means that the higher the quality of the college a student attends, the lower his GPA will be; and (*b*) GPA→Career Choice is positive, which means that the high-ability student tends to choose a high-performance career field. It follows from (*a*) and (*b*) that, to the extent that the student at an elite college obtains lower grades than he would have at a less select college, his self-judgment, and consequently his career aspirations, will be relatively lower. Davis also theorized that the student does not adjust his self-judgment to take into account School Quality, but instead measures himself—using GPA as a yardstick—against other students on his campus. Quality→Career Choice in Figure 1 would be non-zero if the student were to adjust his self-judgment for School Quality: in other words, Davis hypothesized that Quality does not directly influence Career Choice. When restricted to the three variables in Figure 1, any empirical test of his theory requires the moot assumption that Quality→Career Choice is not influenced by peer group and other facets of the college environment.[3]

Although Davis' analysis was set up in a non-parametric form that does not lend itself to calculation of path coefficients, it is possible to construct a path diagram that will clarify the logic and the implicit assumptions of his analysis and at the same time be fairly consistent with his thinking.

[1] This study is part of the National Merit Scholarship Corporation's research program, which is supported by grants from the National Science Foundation, the Ford Foundation, and the Carnegie Corporation of New York.

[2] James A. Davis, "The Campus as a Frog Pond: An Application of the Theory of Relative Deprivation to Career Decisions of College Men," *American Journal of Sociology*, LXXII (July, 1966), 17-31. Although we assume full responsibility for the remarks presented here, Dr. Davis' encouragement and comments on earlier drafts were an essential catalyst. An excellent discussion of path analysis is provided by Otis D. Duncan, "Path Analysis: Sociological Examples," *American Journal of Sociology*, LXXII (July, 1966), 1-16.

[3] See Donald L. Thistlethwaite and Norman Wheeler, "Effects of Teacher and Peer Subcultures upon Student Aspirations," *Journal of Educational Psychology*, LVII (1966), 35-47.

This diagram (see Fig. 2) includes Freshman Career Preference and Input Academic Aptitude, which were introduced by Davis as controls for spuriousness due to differential student input. The correlations (denoted by *curved arrows*) among Freshman Career Preference (X_1), Input Academic Aptitude (X_2), and School Quality (X_3) are treated as unanalyzed correlations. The academic ability is one determinant of college grades; and (*d*) Input Academic Aptitude→Career Choice, since changes in Career Choice are a function of academic ability.[4] Obviously the data lend themselves to analyses that Davis did not consider.

It is useful to note which variables are controlled when computing the path coeffi-

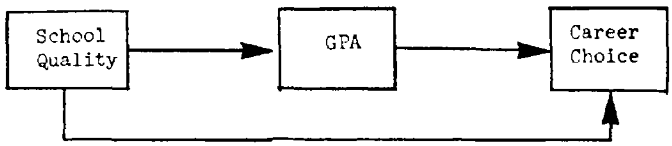


FIG. 1.—Heuristic model of Davis' version of relative deprivation

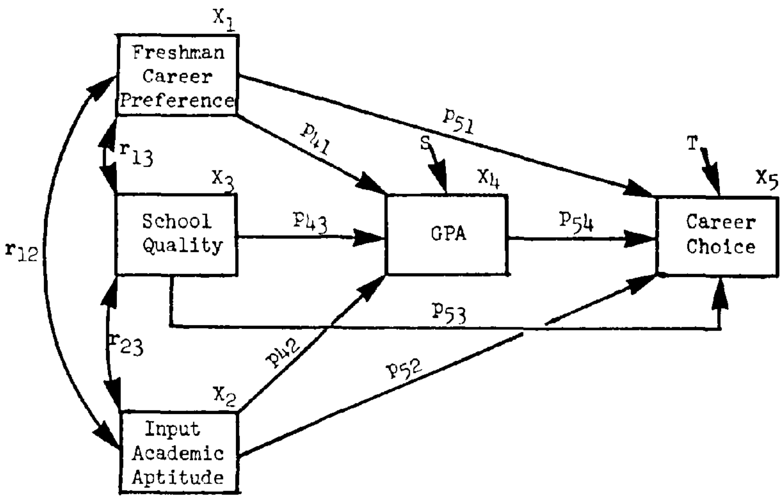


FIG. 2.—Path diagram for the theory of relative deprivation

residual factor, S, causing GPA is assumed to be uncorrelated with prior variables (X_1, X_2, and X_3), and the residual factor, T, causing Career Choice is assumed to be independent of prior variables (X_1, X_2, X_3, and X_4). It seems likely that (*a*) Freshman Career Preference→GPA, since the more difficult a student's field of study, the lower his grades; (*b*) Freshman Career Preference→Career Choice, because there is some stability in career choice over time; (*c*) Input Academic Aptitude→GPA, because

cients shown in Figure 2. The controlled variables for p_{43} are Freshman Career Preference and Input Academic Aptitude; for p_{54}, School Quality, Freshman Preference, and Input Aptitude; and for p_{53}, GPA, Freshman Preference, and Input Aptitude. As evidence of "relative deprivation," Davis argued that Career Choice is associated more strongly with GPA than with School Quality and that this differ-

[4] James A. Davis, *Undergraduate Career Decisions* (Chicago: Aldine Publishing Co., 1965).

ential cannot be explained by precollege, scholastic aptitude differences among institutions or by students' career preferences as freshmen. This argument amounts to showing that the partial association of GPA with Career Choice (when Quality, Freshman Preference, and Input Aptitude are controlled) is greater than the partial association of Quality with Career Choice (when GPA, Freshman Preference, and Input Aptitude are controlled). In terms of path coefficients, the argument is that $p_{54} > p_{53}$, which is irrelevant since Davis' theory requires proof that Quality→GPA (p_{43}) is negative, GPA→Career Choice (p_{54}) positive, and Quality→Career Choice (p_{53}) near zero. Of course, if p_{54} were positive and p_{53} zero, then p_{54} would be greater than p_{53}. However, a finding that $p_{54} > p_{53}$ would not prove that p_{54} was positive or p_{53} near zero. If this were the ideal parametric case, and input test scores were available, Davis' theory could be tested by direct calculation of p_{43}, p_{53}, and p_{54}. If p_{53} turned out to be meaningfully positive, it would have to be argued either that students do adjust career aspirations to compensate for School Quality and/or that other influences are present. Any finding that p_{53} was negative would be surprising and would indicate that attending a high-quality college has a negative effect on career aspirations for reasons other than relative deprivation. If p_{53} and p_{54} were positive, and p_{43} negative, the size of the mediated effect ($p_{43} \times p_{54}$) could be compared with the size of the direct effect (p_{53}) of Quality on Career Choice to determine if the net over-all influence of college quality on aspirations were positive or negative. No definitive analysis is possible because input test scores that must be controlled in order to compute p_{43}, p_{54}, and p_{53} were not available in this case.

The path diagram can be an aid in understanding Davis' analyses.

1. The gamma coefficient of School Quality with GPA (—.333 for men) among the National Merit group (all high scorers) in Davis' Table 3 is not parallel to p_{43}, because Freshman Career Preference was not controlled.

2. In his Table 5, the partial gammas of GPA × Career Choice with Quality and Freshman Preference controlled (.311), and of Quality × Career Choice with GPA and Freshman Preference controlled (.151), do not parallel p_{54} and p_{53}, respectively, because Input Aptitude was not controlled.

3. In Table 7, the partial gamma of Career Choice × GPA with Freshman Preference controlled (.264) among the National Merit group is not parallel to p_{54}, because School Quality was not controlled.

4. Likewise in Table 7 (National Merit group), the partial gamma of Career Choice × School Quality with Freshman Preference controlled is not comparable to p_{53}, because GPA was not controlled. Since this partial gamma is the net influence of School Quality on Career Choice, Davis implies that it should be negative, whereas, in fact, it is slightly positive (.023).[5] Therefore, one cannot argue that there is relative deprivation among the National Merit group. The validity of Davis' collegiate version of the relative deprivation theory remains to be demonstrated.

Davis' introduction of "Flair"—an intervening variable between GPA and Career Choice—as a measure of the student's subjective feelings of academic success had some potential for a more convincing analysis of the data.[6] This potential was not realized, partly because of failure to consider the entire pattern of relationships. Figure 3 represents a revised heuristic model that includes Flair. Davis postulated a negative, mediated effect, Quality→GPA →Flair→Career Choice. The theoretical statement that cross-campus comparisons

[5] An unpublished study of my own, which included test scores for a broad sample of students, also found little evidence of relative deprivation.

[6] Subjective feelings are notably difficult to measure, even with a substantial number of items in the scale. That only a single item was used in the Davis study may mean that the analyses which included "Flair" were almost pure speculation.

are rare corresponds to the assertion that the strength of Quality→Flair is close to zero. *Quality→Career Choice probably reflects other influences of the college on career aspirations, such as the effect of fraternizing with other, very able students.* Because Quality→Career Choice in Figure 1 is the confounded sum of Quality→Flair and Quality→Career Choice in Figure 3, viously overlooked relationships that migh well be brought explicitly into the theo retical discussion. Another advantage i: that the assumptions underlying the analysis must be specified. For example, in this case it was assumed that the residual factors determining GPA and Career Choice are uncorrelated (with each other and with the appropriate independent variables);

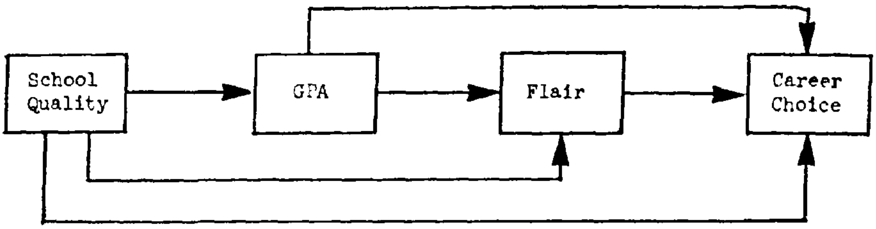


FIG 3.—Revised heuristic model including "Flair"

Figure 3 is the much superior model. Although Davis said nothing about GPA→Career Choice in Figure 3, it is possible that intervening variables other than Flair mediate the correlation of GPA with Career Choice. (For example, in the high-performance fields, faculty members may try to attract students with the highest GPA's.) Moreover, Davis' argument that Flair should be more strongly related to GPA than to School Quality is not really evidence of relative deprivation.

In summary, the construction of a path diagram like Figure 2 brings to light pre- that all measures are perfectly reliable and valid; and that college grades influence, but are not influenced reciprocally by, career aspirations. In some circumstances, it is possible to deal with reciprocal causation using path analysis.[7] The explicitness of the technique makes it easy for the critic to spot inconsistencies and debatable assertions.

NATIONAL MERIT SCHOLARSHIP
CORPORATION

[7] Sewall Wright, "The Treatment of Reciprocal Interaction, With or Without Lag, in Path Analysis," *Biometrics*, XVI (September, 1960), 423–45.

COMMENTARY AND DEBATE

Comment on Lerman's "Gangs, Networks, and Subcultural Delinquency"[1]

While the distinction between social and cultural aspects of human association and their behavioral consequences is a matter of elementary concern to the behavior sciences, Paul Lerman quite correctly takes many of us to task for not sufficiently recognizing this distinction in our research.[2] It is clear that not all delinquency which is subcultural takes place within groups known as "gangs," and the carriers of particular subcultures vary greatly in the nature of their associations with one another.[3] The Sherifs have rejected the concept of the gang as in any sense scientifically adequate; Yablonsky finds it necessary to coin a new concept—the "near-group" —to describe certain "violent gangs"; and others of us have used the term in a common-sense way, while finding wanting many common-sense assumptions concerning the nature of groups so labeled.[4] But the distinctions employed by Lerman have not been systematically applied, either conceptually or empirically, and this is an important contribution of his paper.

Before accepting Lerman's thesis that "the pair or triad, not the group or gang, is the social unit most frequently used by subcultural boys in their deviance," however, both conceptual and methodological questions need to be raised. On a conceptual level, subgrouping within larger groups (or gangs) has often been noted. Gannon, for example, notes that "almost all of the [New York Youth Board] workers . . . reported that the distinction between 'core' and 'peripheral' membership was still valid for their groups, and most indicated that the groups have splintered into smaller cliques numbering anywhere from three to fifteen members."[5] Jansyn's research suggests important processes within the group and external to it which were related to subgrouping within the gang he studied.[6] In addition, it should be noted that delinquent episodes may or may not be related to boys' "usual" patterns of association. Responses to an interviewer's

[1] Paul Lerman, "Gangs, Networks, and Subcultural Delinquency," *American Journal of Sociology*, LXXIII, No. 1 (July, 1967), 63–72.

[2] The distinction is made explicit in my Introduction to the abridged edition of Frederic M. Thrasher's *The Gang* (Chicago. University of Chicago Press, 1963), pp. xxxiv ff.

[3] See, e.g., Albert J. Reiss, Jr., "The Social Integration of Queers and Peers," *Social Problems* (Fall, 1961), pp. 102–20; and Leon Jansyn, "Solidarity and Delinquency in a Street Corner Group," *American Sociological Review*, XXXI (October, 1966), 600–614.

[4] Muzafer Sherif and Carolyn W Sherif. *Reference Groups: Exploration into Conformity and Deviation of Adolescents* (New York: Harper & Row, 1964); Lewis Yablonsky, *The Violent Gang* (New York: Macmillan Co., 1962); and James F Short, Jr, and Fred L. Strodtbeck. *Group Process and Gang Delinquency* (Chicago: University of Chicago Press, 1965). See also James F Short, Jr., "Social Structure and Group Processes in Explanations of Gang Delinquency," in Muzafer Sherif and Carolyn Sherif (eds), *Problems of Youth: Transition to Adulthood in a Changing World* (Chicago: Aldine Publishing Co, 1965).

[5] Thomas M. Gannon, "Dimensions of Current Gang Delinquency," *Journal of Research in Crime and Delinquency*, IV, No. 1 (January, 1967), 119–31.

[6] Jansyn, *op. cit*; for other examples, see the "status threat" hypothesis and matters related to exchange processes discussed in Short and Strodtbeck, *op. cit.*; also, Hans W. Mattick and Nathan S. Caplan, "Stake Animals, Loud Talking, and Leadership in Do-Nothing and Do-Something Situations," in Malcolm Klein and Barbara Myerhoff (eds), *Juvenile Gangs in Context: Theory, Research, and Action* (Englewood Cliffs, N J. Prentice-Hall, Inc, 1965).

query concerning whom one usually goes around with do not, of course, tap the processes which determine those subgroupings and their related behaviors. But this is another problem and not a criticism of the paper under review.

One may question the efficacy of the survey technique in seeking information which is to be utilized for attacking the theoretical issues toward which Lerman's paper is directed. While we may agree that "the survey method is capable of 'tapping' symbolic and behavioral variables of interest to subcultural researchers," the validity of the paper's conclusions may be questioned on the basis of the method employed. The problem is not *only* the possible reluctance of gang boys to reveal their gang identity to "a strange young adult"—though this is real enough—it is also a matter of the identity assumed by boys in response to the particular question asked. Close observation of gang boys suggests that pairs, triads, and other small groups are very often the most common form of association within gangs. We have noted, for example, that when they are in the area where they customarily "hang" some gangs disperse themselves on corners, in alleys, poolrooms, on porch steps, etc., rather than gather in a large group. In the area, indeed, many detached workers spend much of their time moving from one small group to another, monitoring the action, keeping the peace. Outside the area, or when the threat of another gang is assumed to be high, the group draws together in larger numbers. Thus, while a member of a notorious gang might be reluctant to identify his "formal" group association (in the sense of a named gang), it may also be the case that the peer association which is most usual for him—and probably most meaningful—is the smaller group.

In our Chicago research, we asked a somewhat similar question of our gang and non-gang boys. The data are reported in Table 1.[7]

TABLE 1

PATTERNS OF "USUAL" ASSOCIATION REPORTED BY RACE, CLASS, AND GANG STATUS OF RESPONDENTS

Do You Usually Stay Pretty Much by Yourself, Do You Go Around with Just One or Two Close Friends, or Do You Usually Go Around with a Regular Group of Guys?	Status of Respondents					
	Negro			White		
	Gang (N = 205)	Lower Class (N = 88)	Middle Class (N = 26)	Gang (N = 90)	Lower Class (N = 76)	Middle Class (N = 53)
By self	13 7%	13 6%	3 8%	8 9%	9 2%	1 9%
One or two friends	61 0	50 0	57 7	30 0	40 8	43 4
Regular group	25 4	36 4	38 5	61 1	50 0	54 7

It should be noted that all of the gang boys questioned were known gang members, on the basis of prolonged observation by detached workers and research personnel. The interviewers were validated by the detached workers as persons whom the boys could trust and, therefore, report to honestly. Yet, particularly among Negro boys, the pair or triad is the most commonly reported type of association. The "regular group" is more commonly reported among all the white boys, particularly by gang boys. Our suspicion is that the find-

[7] Interview procedures are discussed by Short and Strodtbeck, *op. cit*, and in other project publications, e g., James F. Short, Jr, Ramon Rivera, and Ray A. Tennyson, "Perceived Opportunities, Gang Membership, and Delinquency," *American Sociological Review*, XXX (February, 1965), 56-67.

ing is related to aleatory elements of risk of trouble (which are likely to be greater among lower-class Negroes) and to heightened social disabilities among Negro gang boys and the greater likelihood that their gangs will be the arena for the playing out of status threats Such elements combine to produce less larger-group solidarity among Negroes and perhaps less willingness to report association with a regular group among Negroes. *All* of the respondents in this study were members of regular groups They were, in fact, contacted for the study as a result of these group associations. Yet, many of them chose to identify themselves with one or two friends in answer to our question. Regrettably, we do not have systematic data on the remainder of the questions posed by Lerman's interviewers.

The point, therefore, is both methodological and theoretical. We do not know the margin of error (if any) introduced by the method. To the extent that the data are reliable, however, they do not deny the gang (regular group) as a setting for delinquent subcultures; they may, in fact, inform its nature For it is in the closer relations among two or three friends that much of gang life occurs, and it is these associations which lend cohesiveness to groups otherwise often lacking in this quality.

JAMES F. SHORT, JR.

Washington State University

Reply

In order to highlight the points of difference between James F. Short and myself, it may be useful to summarize briefly the conclusions reported in "Gangs, Networks, and Subcultural Delinquency":[1] (1) "subculture" and "gangs" are not synonymous concepts; (2) boys who participate in a deviant youth culture may or may not be members of regular groups (i e , gangs). (3) the social unit of a subculture is most accurately described as a network of pairs, triads, groups with names, and groups without names; (4) the pair or triad, not the regular group, is the social unit most frequently used by subcultural boys in their deviance; and (5) survey methods are capable of providing evidence in support of these conclusions.

Short begins his comments by apparently agreeing with conclusions (1) and (2); he omits mention of (3); and he states that he is most concerned with (4) and (5). However, the major thrust of his comments is to question conclusions (2) and (5). I shall reply accordingly.

Short readily admits that "very often" gang boys pal around in pairs or triads rather than as a total collectivity However, he ignores the fact that many pairs and triads which by word and deed are active participants in a neighborhood's deviant youth culture are nevertheless *not* members of gangs. This social fact I observed on many occasions when I was a gang worker in Chicago, from 1956 to 1958.[2] In 1961 I began an effort to utilize systematic research methods to gather evidence that went beyond my own earlier participant observations.

Although opinions about methods vary, the social fact nevertheless remains. We should focus on a more interesting problem: How shall we conceptualize the

[1] Paul Lerman, "Gangs, Networks, and Subcultural Delinquency," *American Journal of Sociology*, LXXIII, No. 1 (July, 1967), 63-72.

[2] Documentation for these personal observations, as well as evidence showing that many other Chicago gang workers also observed many types of autonomous social units that do not fit the "gang" label, can be found in Catherine V. Richards, *Breaking through Barriers* (Chicago Welfare Council of Metropolitan Chicago, July, 1960), pp 29 31 It should be noted that Miss Richards' book is based on observations, records, reports and discussions with fifty-nine gang workers employed by fourteen different agencies (including the agency that furnished Short with his samples of gang boys) operating in widely scattered parts of Chicago (see *ibid*, pp 46–55 and p. 57).

placement of pairs and triads within a delinquent subculture? The concept of "network" seems useful in this regard, but perhaps other categories will permit more adequate handling of the complexity of social patterns that can be found in an area's delinquent subculture.

Short raises doubts about the utility of survey methodology in tackling these and related issues, on the grounds that this method may give rise to distortion in collecting empirical data. But this is not the only methodological problem that can be raised. As I suggested in my article, the confusion between gangs and subculture is due in part to the use of biased samples in gang studies. Research focused on studies of the gang has not been based on a random sample of gangs, social units, or individuals residing in an area. Surely this is a serious problem.[3] Actually, it is precisely because of the sampling problem that my co-workers and I attempted to devise a more systematic and reliable method of investigating subcultural phenomena.[4]

Regarding the actual collection of data, Short suggests that gang boys have an "identity" problem when being interviewed by a strange adult. He argues that when boys are asked whom they "usually go around with," they are not sure whether to mention their everyday pals (i.e., pairs or triads) or their regular groups. But I do not believe that the responses Short obtained (see his Table 1) and the responses reported in my article are the results of confused identity; nor are they due to "covering up" or outright lying. Regarding the latter possibilities, does Short mean to contend that respondents *cannot* be trusted on the associational question but *can* be trusted on questions concerning school and occupational aspirations and semantic-differential items (used in the reports of his Chicago studies)?

Instead of casting doubt (without supporting evidence) on Short's respondents, I shall assume that the boys used in his Table 1 were probably telling the interviewers "the way it is." The results of Table 1 indicate that more than one-third of the white "gang" boys and three-fourths of the Negro "gang" boys do not classify themselves as the adult workers and researchers categorize them. How is one to interpret these differential classifications? Short's own comments are of enormous help in handling this question.

Besides informing us that all of the gang respondents had actually been labeled as members of regular groups by detached workers, Short also reports other observations made by these informants. In an earlier paragraph he refers to "close observations" of gang boys leading to the conclusion that "pairs, triads, and other small groups are very often the most common form of association within gangs." It appears that these boys (probably observed in Negro areas) utilize larger social formations mainly when they go outside their "turf" or when outsiders enter their area. Empirically, the Negro boys are *observed* to associate in pairs and triads and tend to *report* that this is the case. But the social label is placed on them on the basis of their more occasional groupings. Is it possible that the social label is interfering with analysis of the empirical reports of both the youth and their workers? I think so.

Short's mode of analysis refers to observed non-gang peer phenomena as gang-oriented "dispersion." But, empirically, many boys appear to be gang members in

[3] The study by Richards (*ibid.*) includes one of the best samples of the potential universe of diverse social units existing in the modern gang literature, but it was selected by social agencies—not by researchers. The researcher's lack of control over the universe to be sampled results in unknown agency samples—not random youth samples. This methodological constraint is probably much more serious than the constraints that would arise from any data-collection method chosen by a researcher.

[4] Professors James A Jones (New York University School of Social Work) and Richard A. Cloward (Columbia University School of Social Work), assistant director and director of research, respectively, for the Mobilization for Youth demonstration project, share responsibility for the decision to conduct a survey of a random sample of youth rather than an unknown sample of gangs known to social agencies in the target area.

name only; they may become actual gang participants when there is a common threat from outsiders. Instead of perceiving the Negro pairs and triads as dispersed gang boys, it seems more appropriate to accept their own descriptions of peer life; they probably gang together only when they have to. However, even in their usual patterns of interaction—away from the larger gang formation—they are probably guided by similar values and language and are getting "busted" for expressing this shared symbolic deviance in delinquent actions.[5] Short's Negro gang boys appear to be subcultural participants via a complex network of pairs and triads that *sometimes* includes gang formations; however, "very often" the network is comprised of the usual pairs and triads.

[5] For an elaboration of this point of view, with supporting evidence, see Paul Lerman, "Argot, Symbolic Deviance, and Subcultural Delinquency," *American Sociological Review*, XXXII, No. 2 (April, 1967), 209-24.

On the basis of Short's own data, I am inclined to reword point (2) of this reply as follows: "Boys who participate in a deviant youth culture are either non-members, occasional members, or persistent members of regular groups."[6]

Attempts to squeeze all of the subcultural boys into the "regular group" category yield results that do not jibe with either observational or survey data.

In conclusion, my differences with Short are based not on methodology but on social facts and interpretations of these facts.

PAUL LERMAN

Columbia University
School of Social Work

[6] From this point of view, the widely noted "peripheral" members of gangs are probably just pairs and triads that occasionally participate in larger collectivities; detached gang workers, as Short, Yablonsky, and Richards have observed, are very often forced to work with these small social units—even while they continue to use inadequate social labels inherited from traditional gang sociologists.

BOOK REVIEWS

The Sociological Tradition. By ROBERT A. NISBET. New York: Basic Books, 1966. Pp. xii+349. $7.95.

This work keeps much of the promise it holds. It is learned and well-written, as one has come to expect from its author. Nisbet succeeds beautifully in setting before the reader an artful personal vision of what the sociological tradition means to him. He wants to offer neither a comprehensive intellectual history nor a detailed presentation of systems of thought but, rather, an interpretation of the five unit ideas that for him constitute the sociological tradition: community, authority, status, the sacred, and alienation. These ideas provide an inclusive matrix within which the continuity of sociological thinking is preserved Linked to them are their conceptual opposites: society, power, class, the utilitarian and profane, and progress. In a grand sweep, Nisbet shows how these unit ideas emerged from complex reactions to the Enlightenment and the French Revolution, within the philosophical and political triangle of liberalism, radicalism, and conservatism. Sociology was the result of a "creative paradox": On the one hand, it was a vital component of modernism and liberalism; on the other, its "essential concepts and implicit perspectives" brought it close to philosophical conservatism. The major writers to which Nisbet devotes himself—Comte, Le Play, Tocqueville, Durkheim, Tönnies, Weber, and Simmel (with Marx as the great dissenter in his scheme)—responded with creative ambivalence to the two revolutions of their time, industrialization and democratization.

Without the sociological tradition, Nisbet argues, sociology today would be an empty shell. The history of sociology, he explains, is different from the history of science because the great sociologists never ceased to be moral philosophers and artists; they were not positivistic "problem solvers" (as most of us are). In this tradition, Nisbet models his own work, weaving a broad and luminous tapestry out of the "classics" of sociology.

This undertaking involves the author in some stylistic and methodological difficulties. Frequently, one-third of a page consists of quotations, many of which appear to be unnecessary for the flow of the argument and could have been simply referred to in a note Again, he seems to choose that path because it helps him to create a vision and even a devotional mood (in the more favorable sense of the word). On the way, analysis sometimes suffers at the hand of synthesis. Some "problems" of intellectual derivation that can only be (approximately) "solved" by prosaic detective work tend to be neglected. The most serious shortcoming of Nisbet's approach lies in its tendency to link major thinkers more closely together than they actually were; thus, Nisbet reinforces at times the very error of the untutored against which he invokes Isaiah Berlin's saying that "ideas never beget ideas as butterflies beget butterflies." At issue here are not the "unique" contributions of individual writers but demonstrable processes of literary and academic influence. The tracing of the manner in which a given writer assimilated various ideas is not a mere fact-finding task of intellectual history but is pertinent to the sociology of knowledge, with its interest in the modes of scholarly innovation and the diffusion of ideas within the institutional matrix of academic life. There are occasions when "holistic" artistry conflicts with problem solving Thus, it appears to me that the difference between the problem solver and the artist-essayist can be clearly discerned in the sociological tradition, and this difference is important because most sociologists endeavor, for good and bad reasons, to be problem solvers rather than artists.

Nisbet's phenomenological approach works well when applied to affinities and contrasts that are not complicated by actual historical relationships, as in the case of Tocqueville and Max Weber. It does not work so well when Tönnies and Simmel, philosophers and artist-essayists par excellence, are related to Weber, who was in profound methodological disagreement with the work of both men. Nisbet gives Tönnies' *Gemeinschaft und Gesellschaft* a great deal of attention, but in a static fashion, without focusing on the slow evolution of Tönnies' thinking in the various editions and the other

writings in which he championed sociology after the turn of the century; in particular, he fails to look closely at the way in which Tonnies and Weber expressed their mutual agreements and differences. Nisbet once refers to Troeltsch, against whose wildly inaccurate generalizations Tonnies defended himself and took Weber's side; however, there is no mention of René Konig's exhaustive (1955) study of Tonnies Instead, there are educated guesses of probable relationships. For example, a lengthy quotation from Tönnies (p. 144) is followed with the comment that "here, almost certainly, is the immediate source of Weber's notable principle of rationalization." In the same vein, we read that the form in which Weber's early interest in traditional and rational types of authority developed into his "large-scale comparative treatment of society is surely, in ample measure, the consequence of the impact of Tonnies' theoretical constructs" (p 79), and, finally, we read about "The City". "It is no disservice to Weber's greatness to observe that this book rests on Tönnies' typology" (p 326). Certainly, it would not be a disservice, but, in spite of his prudent qualifications, the author seems so certain of his assumptions that he fails to offer any evidence for them That would not matter so much if it did not tend to obscure the way in which the course of rationalization was studied at the universities during those decades.

Here another difficulty emerges The very sweep with which Nisbet tries to pull together the strands of the sociological tradition makes it at times difficult for him to give generational sequences their proper locus, as when he points out that certain concepts developed after 1900 "owe much" to the French Revolution Such telescopic statements need to be balanced by distinctions that spell out the intellectual transactions between two generations of scholars. Similarly, Nisbet's tripartite division of social thought—the eighteenth versus the nineteenth and twentieth centuries—leads him to contrasts that are simply too global to have specific explanatory value

These objections and doubts should not distract from Nisbet's real achievement in the face of an extraordinarily difficult task. His rereading of the "classics" is an instructive and evocative tour de force. It makes for an excellent introduction to the common themes of the sociological tradition, as long as the reader is aware that the differentia within this tradition have had great consequences for contemporary sociology.

GUENTHER ROTH

University of California, Davis

Constructive Typology and Social Theory By JOHN C MCKINNEY. New York Appleton-Century-Crofts, Inc, 1966 Pp. xiii+250. $5 00

This book makes an urgent plea for the explication of constructive typology, which "is herein viewed as the generic mode of typification encompassing all special typological procedures" (p 2) The author, who acknowledges his indebtedness to Paul Honigsheim. Charles P Loomis, and particularly Howard Becker, attempts the difficult task of codifying typological procedure The chapters are intended to explore, in a frankly preliminary fashion, the implications of some twenty propositions on the nature and purpose of constructed types However, the presentation moves on a level of abstraction that makes it exceedingly hard to pursue the stated purpose of drawing on both "theoretical and empirical evidence" (p 4) Time and again the author stresses the comparative and predictive purposes of the constructed type, but the book suffers from a difficulty typical of literature in this realm it shuttles back and forth between methodological considerations that properly belong in the field of the philosophy of science and the pragmatic interests of sociological research The pragmatics do not receive the kind of attention that would make the analysis helpful to the practitioners Much of the book is given over to a restatement of basic features of typology with which professional sociologists are reasonably familiar.

The strongly didactic stance of the work makes it quite suitable, over stretches, for undergraduates; but, if it is addressed largely to them, it must be pointed out that it suffers, at crucial passages, from lack of explicitness and from repetition. The constructed type is defined "as a purposive, planned selection, abstraction, combination, and (sometimes) accentuation of a set of criteria with empirical referents that serves as a basis for comparison of empirical cases." This definition appears verbatim on pages 3, 16, and 25. We read that this type was "conceptually developed by

Becker and defined by McKinney" (p. 25). The "Becker-McKinney model" is said to differ from Weber's ideal type by being "shorn of any purely fictional qualities" (p. 26). One chapter deals largely with the alleged contrast between ideal and constructed type; the chapter leans heavily on Becker's writings and some remarks by Lazarsfeld and Parsons, but it fails to contain a single page reference to Weber's methodological writings. There is little scholarly value in establishing "firsts" in science and none in merely defending Weber's involuted formulations, but, had the author cited chapter and verse, he could have grounded his arguments and, maybe, could even convince his readers. (The one quotation of Weber's "following remarks" in the preceding chapter turns out to be Parsons' wording.) As it is, the superiority of the constructed over the ideal type is a matter of assertion, which the reader must take at *faith*-value.

After a summary treatment of the societal continuum and polar types in the work of Tönnies, Durkheim, Cooley, Redfield, Becker, Sorokin, and Weber, the author turns to the place of constructive typology within the Parsonian social system, repeating its postulates and components on an elementary level. He rejects the critique that the structural-functional approach cannot handle social change and in two chapters deals with the problem of instigated social change and planning for change. Here he comes nearest to an empirical application of his approach by drawing on his earlier work with Loomis on "Systemic Differences between Latin-American Communities of Family Farms and Large Estates."

In conclusion, the book may be said to venture a reconciliation of Howard Becker's perspective with that of structural functionalism. Like few others, the author seems to have the background for undertaking such a task, but the present work vacillates too much between basic exposition and specialized treatise. The author's themes are important enough to deserve another elaboration on his part.

GUENTHER ROTH

University of California, Davis

Medical Innovation, a Diffusion Study. By JAMES S. COLEMAN, ELIHU KATZ, and HERBERT MENZEL. Indianapolis: Bobbs-Merrill Co., 1966. Pp. xxi+246. $2.95.

All too often nowadays there is a prolonged delay between the time of collection of research data and the publication of results. As a consequence, the findings frequently have little relevance for theoretical development or are only of historical interest to researchers working in the same area who have advanced beyond the stopping point of the published report. Happily, the report reviewed here is an exception, despite the lapse of some fifteen years between the time of the study and its publication. To be sure, several brief reports on this project have appeared earlier in various professional journals, but the present publication represents the first complete report.

In this study of innovation—an analysis of the process of adoption of a new drug by practicing physicians—the authors chose to examine the adoption process within the total medical communities of each of four midwestern cities rather than the more customary procedure of selecting a nationwide representative sample of doctors. This procedure enabled the researchers to collect data on channels of interpersonal influence, sociometric friendship, and colleagueship choices and to examine pharmacy records on prescriptions ordered by physicians in these communities. To these data were added the usual background information on the doctors, the nature and type of medical practice, orientations of the doctors toward their profession and their patients, as well as non-treatment practice activities engaged in by the respondents. Lengthy personal interviews were the means of data collection.

The evaluation of these data led to several interesting, although not unexpected, conclusions. For example, the adoption process followed two different patterns or models—the "snowball" process and the "individual" process. The former was a pattern in which the rate of adoption of the drug (meaning the number of physicians who adopted it and the length of elapsed time between the introduction of the drug and the first time it was prescribed) rose at an increasingly steep rate until it finally leveled off, after about seven or eight months. The individual process showed a much slower rate of increase, never reaching the height of the snowball curve (although the individual process curve was still rising after eighteen months, when data collection was terminated).

More important, the characteristics of doctors involved in the two patterns were sharply

differentiated according to their degree of integration in the medical community (and some other characteristics as well). The "integrated" physician maintained close professional ties with other doctors—especially in his office practice and in hospital appointments—and had friendship ties mostly with other physicians. The "isolated" physician had few close associations with other medical men. Predictably, the "integrated" physicians were the earliest users of a new drug.

Upon examining the component parts of the adoption process, the authors cited the role of the "detail man," the drug company's representative, as a major influence in the adoption process, compared to the impersonal media, such as advertisements in professional journals or drug-company fliers.

In an attempt to discover as well as explain the combination of factors which allow prediction of early adoption of innovation, this study itself illustrates some innovativeness. First, there is the "total community" approach While not entirely new itself, the decision to study a total "medical" community in four cities represents a departure from the usual approach to studies involving physicians Second, the operationalization of the innovation was based on "hard" data—the date of first prescription of the drug and the date of its introduction. Rarely do surveys have access to these kinds of data. More often, investigators must rely on subjective statements or recall as to the time an innovation is first used. Third, but certainly not finally, the authors have presented their argument and data in a most compelling fashion. Many of the data are shown in graphic fashion, illustrating clearly the rates of adoption according to selected attributes of the doctors.

Substantively, this report extends our knowledge of the interaction between situational factors and individual characteristics which together result in an individual's proclivity for or resistance to new ideas or techniques. The authors are unduly modest in their statement regarding the applicability of their findings. While the innovation as well as the subjects of study seem somewhat circumscribed in their focus, this study nevertheless has important ramifications for the general study of innovation and change.

RODNEY M. COE

Washington University

Affluence and the French Worker in the Fourth Republic. By RICHARD F. HAMILTON. Princeton, N.J.: Princeton University Press, 1967. Pp. x+323. $8.50.

It has been widely believed that rising standards of living are undermining political radicalism in industrialized nations. The persistence of Communist support in France has seemed a deviation from this trend, but it is usually accounted for by observations about *dépolitisation*. But this widespread belief has been so little subjected to rigorous testing that Hamilton's study—which does this testing with considerable ingenuity and in great detail—is a much needed antidote. He contends that radicalism was not decreasing in France during the 1950's, that various manifestations of "affluence" were indeed not associated with political moderation on the workers' part, and that a closer scrutiny of processes of social change in France provides little basis for expecting a decline of radicalism.

The rise of affluence and any attendant change in radicalism are parts of a process that requires detailed study over time. Changes in individual or national income may be accompanied by changes in individuals' jobs and work experience, in place and conditions of residence, in ownership of material goods, in organizational affiliations, in informal communications channels, and in reference groups and standards of comparison They may also involve changes in related variables from one generation to the next. Changes of this sort have usually been treated as steady increases, producing corresponding decreases in radicalism. Hamilton examines them one by one and finds that some are not associated with moderation at all, others work in terms more of the lasting effects of cyclical variations (unemployment) than of steady development, and still others produce increases in radicalism. The organizational framework into which job changers and migrants are channeled (chiefly the Communist-dominated union, the CGT) hinders changes toward political moderation The educational system limits intergenerational status mobility, and a rural "nativist radicalism," present in France but not Germany, recruits radicals from farm to factory. The analysis is specific to France, but it benefits from a wide-ranging comparison of processes of industrialization and urbanization in other countries.

The data for this analysis are four French surveys conducted for other purposes between 1952 and 1956. They are analyzed with skill and with numerous controls for extraneous variables; the analysis is guided by notions of changes in economy and polity over time and in the individual's frames of reference throughout his career. It would be desirable, of course, to have panel or longitudinal data on these matters, but cross-sectional data contribute much and may stimulate the collection and analysis of other information.

But survey data, while valuable, should not be the sole resource of sociological research, even in contemporary studies. They can be cross-checked and supplemented by census data, archives, official records, economic time series, and the like. When one deals with the different occupational distributions in cities of different sizes, for example, one should compare survey results with census data, especially if the surveys have sometimes proved unreliable in the past A trivial but symptomatic indication of this exclusive use of survey data is Hamilton's mention of the use of a two-ballot voting system under the Fourth Republic (p. 21)—a system not instituted until 1958, as a glance at the official volumes of voting statistics would have revealed.

This book is a valuable contribution to comparative political sociology, especially as regards the relations between occupations and mass political references. Its particular contribution is a detailed analysis of the peculiar structures of one society, cast in comparative terms but not oversimplified for this purpose. It will also be a useful supplement to more politically oriented studies of the Fourth Republic that assume the constancy of Communist support and analyze the workings of formal institutions, political elites, and the party system.

Duncan MacRae, Jr.

University of Chicago

Alienation and Freedom: The Factory Worker and His Industry. By Robert Blauner. Chicago: University of Chicago Press, 1966. Pp. xvi+222. $7.50.

American and European sociologists have long been concerned about the impact of technology on the social structure and attitudes of factory workers. They have applied more sophisticated research methods to a subject area dominated chiefly by the social philosophers who decry what the Industrial Revolution has done to man at work or the polemicists in business who hold that modern work provides a new emancipation from the drudgery of labor.

Robert Blauner rejects the philosophical and polemic approach and criticizes, by implication, some of the more recent research for its failure to make distinctions among the types of work environments as they affect the workers' feelings of alienation or freedom. He defines freedom as "a sense of control rather than domination, a sense of meaningful purpose rather than futility, a sense of social connection rather than isolation, and a sense of spontaneous involvement and self-expression rather than detachment and discontent" (p. vii). The author hypothesizes that the degree of alienation or freedom is a function of four basic types or stages of technology craft, machine tending, assembly line, and continuous process—the latter known more popularly as "automation." Relying on survey data from previous studies by Roper and others and on his own survey material, Blauner selects printers, textile workers, auto workers and chemical operators as representatives of each type of technology. Analysis of the questionnaire results suggests that workers in the craft-type technology are the least alienated from their work. Machine-tending technology introduces standardization and specialization resulting from job fragmentation. Such conditions have alienating effects both with respect to the work itself and the social structure of the work environment The extreme form of work rationalization is represented by the man on the assembly line. Here Blauner's findings support those of Chinoy, Kornhauser, Walker and Guest, and others who found a high degree of anomie or alienation among workers performing repetitive, conveyer-paced tasks.

Blauner discovers that in continuous-process technology, both in the nature of the work itself and in the social interactions provided by the job, workers may enjoy a new challenge in their work. Tasks require new science-based skills in a series of processes involving the integration not only of machines and the workflow but of the humans responsible for maintaining the complicated operations. He is

careful to avoid generalizations, and rightly so. Scattered evidence from other studies in automated industries suggests that workers may in fact work in relative isolation. Electronic communication, not human interaction, may result and with it may come a new form of alienation because of the absence of any primary work-group identification

Blauner's study contributes little to research methodology, but his typology of work environments is a useful contribution.

ROBERT H. GUEST

The Tuck School, Dartmouth College

Dollars and Sense: Ideology, Ethics, and the Meaning of Work in Profit and Nonprofit Organizations By JOSEPH BENSMAN. New York: Macmillan Co, 1967 Pp. ix+208 $5 95.

This book is primarily an exercise in debunking Joseph Bensman takes on, in turn, four occupational scenes in which he has had direct experience—advertising, academia, social work agencies, and community poverty programs—and attacks and demolishes the false fronts which they ordinarily expose to the public

In advertising, ideology is a fake, defrauding the public is a normal part of the job. Academics are frequently engaged in bitter feuds and dirty deals in which they show none of the objectivity which is touted as their stock-in-trade Bensman even exposes the not uncommon sexual relations between faculty and students which the many social science studies of sex in college have never even mentioned

The writing style is compelling A happy choice of words often epitomizes a crucial relationship. About welfare workers. "A vast part of personnel in the field . . consists of totally untrained persons whose only qualifications are a bachelor's degree and an inability to make an occupational choice before graduation from college" (p 95). About academic grantsmanship: "The most brilliant form of virtuosity is to turn each failure into the basis for another grant" (p. 151).

So far as I can tell, the picture of these occupational spheres is fairly accurate and not greatly exaggerated. When I read Bensman's account of battles within a community poverty program, I first thought the scene was overdrawn, but that same evening I watched, on a television news program, the board members of a nearby community action program accuse the director of misuse of funds and immoral behavior.

But, though Bensman's descriptions are not false, they are sometimes oversimplified. For example, in the case of the area I know best —the academic world—he repeatedly makes professors' behavior sound much more consistent than it actually is Graduate students are by no means always selected to fit a narrow mold of departmental conformity (p. 158) What constitutes a good graduate student is, in fact, an area of considerable controversy with wide differences of opinion—differences which are often resolved by allowing each professor to select a portion of the admissions according to his own criteria It is *not* a generally accepted norm that a professor should not discuss intrafaculty squabbles with students (p. 139); again, not only does practice vary widely, but there are also considerable differences of opinion about whether such behavior is right or wrong

It is this tendency toward oversimplification and the glossing over of the complexities of the situation which are the chief weaknesses of this book Little effort is made, for example, to examine the circumstances under which professors may draw students into their squabbles and when they do not, the circumstances under which social workers will join their client in subverting their agency and when they will remain loyal, and so on The author makes a gesture at a comparative statement by developing a typology of internal and external ethics and showing how each occupational setting fits into this scheme But this is a sparse and belated effort

In brief, this is a sprightly account of the underlife of advertising, social work, community action, and the academic world. It is not a sociological analysis.

JULIUS A ROTH

University of California, Davis

Pollbooks: How Victorians Voted By J. R VINCENT. Cambridge: Cambridge University Press, 1967. Pp. xii+194. $10 00

In Britain, the ballot was not secret until 1872, and there was often sufficient interest in

specific elections to make it profitable for a printer to publish a list of voters in a particular constituency showing how each person voted. Vincent estimates that such pollbooks were printed for a third to a half of all contested elections between 1830 and 1872. A small fraction of these books list each voter's occupation, thereby providing the political sociologist with an invaluable source of data. The bulk of the volume under review consists of vote tabulations by selected occupations for approximately 175 elections in this period. The location of the original pollbook is given with each table. In addition, the author carefully explains the many limitations to the pollbook as a source of data and presents some general interpretations of his own regarding electoral process during this period.

The author's introductory essay advances a revised conception of social class, with membership criteria corresponding closely to neither wealth nor the ownership of capital, but constituting a sort of operational collectivity of groups who foster or resist structural change in the political order. The ideas put forward are interesting but are too imprecisely defined and devoid of specific documentation to be judged as a product of research with pollbooks. Hence, the volume must be evaluated according to the usefulness of the tabulations as raw data for other investigators.

In appreciation of the prodigious effort required to ferret out and classify so diverse a body of information, it is with dismay that the reviewer must note that investigators will probably not be able to use Vincent's tabulations as data in careful research. For most elections, the author has chosen "selected categories" of occupations according to only vaguely specified criteria. The sum of the votes in any table is consequently only a small part of the total vote cast or recorded in the pollbook. Because of the idiosyncratic features of each election, the sociologist will usually wish to search for consistencies in many elections but cannot do so rigorously because of the manner in which the data are reported. Selective tabulation might be justified if the author supplied summary measures, made clear the basis for his omissions, and explained the conclusion he draws from each table or set of tables. But the reader who has no access to the original pollbooks can use this volume only for hypothesis formation and preliminary plausibility checks. No one can peruse the tables without being provoked to speculate about Victorian social structure. For example, why were butchers Tories and grocers Liberals with such consistency? Furthermore, a great deal is to be learned about social structure from the author's reports of difficulties in classifying occupations; for example, skilled craftsmen (employees) and small entrepreneurs are commonly not distinguishable by the occupational titles they give.

If this volume awakens interest in pollbooks and other historical sources of sociologically relevant data, and if its tabulations help to disabuse those who still cling to simplistic assumptions about occupational determination of voting, it will have justified the author's effort. We can only hope that someone will now prepare complete rather than selected tabulations of the same data for a data bank, where they can be retrieved quickly by researchers who employ modern methods.

RALPH H. TURNER

University of California, Los Angeles

Japan's Invisible Race: Caste in Culture and Personality. By GEORGE DE VOS and HIROSHI WAGATSUMA. Berkeley: University of California Press, 1966. Pp. xxiii+415. $8.75.

The Eta have long been the object of curiosity among Western scholars. These pariahs, genetically indistinguishable from other Japanese, have for centuries been despised as inferior and polluted people, restricted to menial, often degrading, work, segregated, and contacted largely through an elaborate etiquette Although they are generally identified outside of Japan as the "Eta," this word is virtually unknown to younger Japanese; more common appellations include "Shin-heimin" and "Burakumin," and the authors have chosen the latter designation. Most of the book was written by the coauthors, but contributions by eight other authors have been incorporated, including revised versions of articles by John Donoghue and John Carroll that had appeared previously in the *American Anthropologist*. As the first comprehensive book on this subject in the English language, it contains many little-known facts, and it is a most welcome addition to the literature.

The authors estimate that there are more

than two million Burakumin in Japan today. Unorganized and leaderless, they are scattered throughout the islands and stand outside the class system of ordinary Japanese, just as the "untouchables" of India are excluded from the caste system. They are an integral part of the economy, but their relations with others are largely symbiotic; they live outside the moral order, for they are regarded as something less than human. Frequent references are made to striking parallels to the status of Negroes in the United States.

Readers expecting a detailed ethnographic study of a Burakumin community will be somewhat disappointed, for the coverage is much more general. The volume includes a history of these pariah communities from the earliest times, accounts of various reform movements carried out in their behalf as well as of the more militant postwar demands of the outcasts themselves, a report on the fate of those who had migrated to the United States, a brief description of other low-status groups in Japan, and comparisons with the caste system of India (by Gerald Berreman). Many detailed studies are cited; all but a few of them, however, are available only in Japanese. The main body of data collected by the authors focuses upon the formation of self-conceptions among Burakumin, the manner in which they develop differential expectations in their socialization, and the way in which their sense of personal identity and pejorative self-estimate lead to conscious and unconscious defensive measures that impede communication with outsiders and often prevent "passing," even when social mobility is possible.

In the final section, the senior author proposes a "functional" explanation of the formation and persistence of pariah communities. His position, however, differs from the more common "functional" theories of social stratification. De Vos declares that the survival of Burakumin cannot be explained in terms of utility; the distinctions have long since outlived any possible usefulness and even impede efficient co-ordination. Following the culture and personality tradition of Kardiner, he contends that the psychoneurotic syndromes of individuals, such as compulsive insistence on purity and insulation from contamination, may become institutionalized into segregation; separation is then enforced to the degree to which status anxieties are felt Beliefs that are rigidly held in the face of negative evidence are expressive—essentially defensive; beliefs that are instrumental are displaced when disproved. Thus, the system is an institutionalization of expressive behavior. The author goes on to argue that the various patterns of exclusion throughout the world based upon myths of alleged biological differences are merely dissimilar manifestations of the same psychological processes. At a time when an adequate explanation of such phenomena is so badly needed, this thesis certainly deserves serious attention. However, it encounters the same difficulty that is faced by all efforts to explain collective phenomena in terms of individual needs: in every community some individuals suffer from a low level of self-esteem, but many others do not. In pursuing this line of argument, the key problem that remains consists of ascertaining the conditions under which weaklings prevail and manage to get their position legitimated.

This volume is especially apropos in that it suggests a less parochial approach to the study of social stratification Much of the current literature flows directly or indirectly from the writings of Marx, who lived in a class society; although estates and castes are occasionally mentioned, the focus remains on class systems. Attempts are still being made to squeeze observations made in urban mass societies into a framework that emerged in studies of nineteenth-century European society. A comparative study will reveal that human beings are classified and ranked in some manner in all societies and that the basis for distinctions varies enormously A more comprehensive and realistic approach would require identifying various types of stratification and the conditions under which each develops; this would pave the way for a search for more general principles on the formation, endurance, and dissolution of such systems. Only then will sociologists be able to claim an adequate theory of social stratification

TAMOTSU SHIBUTANI

University of California, Santa Barbara

People of Rimrock: A Study of Values in Five Cultures. Edited by E. VON Z. VOGT and ETHEL M. ALBERT. Cambridge, Mass.: Harvard University Press, 1966. Pp. xiv+342. $9.95.

This is one of the final reports of the Harvard Values Study project. It presents an overview of the contrasts and similarities between the value orientations of the five cultures situated in the Rimrock region of New Mexico. With considerable sensitivity to historical context, this book examines contemporary Zuni, Navaho, Texas homesteader, Spanish-speaking American, and Mormon communities in a rather conventional ethnographic format. In addition to a general discussion of values by Vogt and Albert, there are chapters on geography, intergroup relations, ecology, and economy by Vogt and his associates, on socialization by Whiting and his associates, on kinship by Edmonson, on political organization by Pauker, on religion by Bellah, and on expressive activities by Clyde Kluckhohn.

This book reflects the tentative and somewhat ambiguous status of values research. "It seems that the more precise the method, the more minute and limited the results; and, the more grand the theory, the more vague and impressionistic the methods" (p. 10). As data, values do not fit neatly into discrete observational categories; they encompass the entire breadth of human discourse and action. The notion of values seems plagued by paradox. Though ordinary social experience is permeated by value elements, they are often treated as the least substantial members of scientific vocabularies of motives. When examining concrete cases, social scientists tend to look for psychological, economic, or political interests and often relegate values, as general moral desideratum, to the cultural background. Yet, social theory cannot afford to dispense with the concept of values, despite their elusive nature, and rely completely upon more situationally bound notions such as role and norm. As analytic components of social systems, values identify the boundaries of diverse social units and spheres of meaning Moreover, they provide the theoretical grounds for attributing order and intelligibility to activities which reveal contradictory commitments and which occur in contexts governed by incompatible rules.

Clyde Kluckhohn's definition of values as "conceptions of the desirable" which "influence the selection from available modes, means and ends of action" mediates between the bewildering complexity of individual desires, preferences, goals, and attitudes and global constructs (such as world view or ethos) which organize the intellectual and emotional premises upon which norms are justified, and discrepancies between ethical imperatives and social realities are rationalized. However, possibly in despair of giving Kluckhohn's formulation greater operational specificity, the editors argue that if they were to undertake the same task today they would rely upon the techniques and assumptions of componential analysis. But this concern with the implicit cognitive criteria of folk taxonomies ignores the affective dimension of the evaluative process. This overlooks the ways in which values organize feelings into mood states which sustain the felt validity of motives and goals which might otherwise be abandoned if adaptation or utility were the actor's sole consideration.

The descriptions of the value emphasis of these five cultures are excellent. Nonetheless, on the whole, the writing has a rather flat, one-dimensional quality. Although the editors claim that the conception of values which informs this study views them as responses to universal human dilemmas, the value complexes of these communities are placed in larger cultural configurations, and it is the latter which is subjected to comparison. Perhaps the book would have greater richness and depth if the authors isolated recurrent problematic situations in these communities and specified the level at which value standards shaped their members' choices and decisions.

GARY SCHWARTZ

Illinois Institute for Juvenile Research

Africa: The Politics of Unity: An Analysis of a Contemporary Social Movement. By IMMANUEL WALLERSTEIN. New York: Random House, 1967. Pp. xi+274. $4.95.

Between 1945 and 1967, the number of sovereign states on the continent of Africa increased from four to thirty-eight. The thirty that were in existence in 1963 (exclusive of South Africa) formed the Organization of African Unity (OAU). During the subsequent four years, the OAU succeeded in preventing several disputes between member nations from degenerating into warfare and was able to coordinate action on numerous economic, political, and social problems. It was less successful in its effort to hasten the overthrow of white-

settler governments in Rhodesia and South Africa and to force Portugal to grant independence to Mozambique and Angola (chap. ix of this book, "The Liberation of Southern Africa," explains why).

The rhetoric of the African revolution, as well as pressures from West and East, have forced all African leaders to commit themselves to unity. The OAU reflects the values and interests of elites who prefer what the author calls an "alliance" rather than a "continental government" or a "United States of Africa" which other leaders propose The OAU alliance is opposed on many crucial issues by a small group of states (seven in 1965) that retain membership in the OAU but that also form part of the "revolutionary core" of a social movement. The other segments of the core are avant-garde unions grouped into the All-African Trade Union Federation (AATUF); radical opposition parties within the more conservative independent states; and some of the "liberation movements" in areas controlled by white settlers or that have not yet achieved independence. The core assigns highest priority to completion of the African revolution by militant action in southern Africa; insists that effective unity leading to rapid modernization requires some form of continental government and not just an alliance of states, and espouses socialist (though non-Communist) development programs.

Using very simple concepts, along with an unobtrusive functional approach, Professor Immanuel Wallerstein, one of the few American sociologists with expert competence in African area studies, subtitles this study of the interaction between the revolutionary core and its periphery (the OAU and the more conservative trade unions and nationalist organizations) "An Analysis of a Contemporary Social Movement." He is secure enough in his status as a sociologist to omit the jargon that many Africanists from other fields seem to find necessary when they attempt a sociological analysis.

The author's normative and analytical frame of reference is presented in the Preface and the first twenty-five pages of text, along with a succinct and exceptionally well-informed and sensitive discussion of the pan-African movement among New World Negroes that preceded the emergence of effective nationalist organizations and new nations in Africa itself The chapter entitled "An Ideology for a Movement," which appears later in the book, might well be read along with this introductory section.

The second section of the book—"The Political Struggle: 1957–1965"—describes the interaction between core and periphery as it took place in caucuses and conferences involving scores of organizations (including the U.N.), sometimes with tragic consequences, as in the case of the Congo. Even with the "Glossary of Initials" supplied as an aid in following the moves and countermoves of seventy-nine trade unions, liberation movements, and other organizations, patience as well as interest will be necessary to fully assimilate Wallerstein's tour de force that compresses most of the meaningful political history of contemporary Africa into seventy-five copiously footnoted pages. Four chapters follow "The Problems of a Movement" and supply additional documentation for the generalization that "the core hoped to use the periphery, the periphery to tame the core" (p 21).

African political events are publicized routinely by press, radio, and television with episodic and fragmented accounts of conferences and U N. debates, economic crises and coups, profiles of leaders, accounts of occasional assassinations, and of visits by junketing Congress and State Department officials. Events, when interpreted, are usually viewed as incidents in the East-West conflict, and leading personalities are frequently stereotyped (and some villainized) according to their presumed Communist or anti-Communist leanings This book not only clarifies the relationship between African nationalist movements and various socialist and Communist organizations but also discusses radical African leaders as ideologically oriented intellectuals, not psychiatric cases The author provides a meaningful frame of reference for interpretation of isolated (and sometimes bewildering) events in two chapters: "The Political Implications of Economic Analysis" and "African Unity in the World Context" They both provide insights from the points of view of actors at various positions in a worldwide action system, with one chapter emphasizing the common economic problems faced by all of the African states and the other analyzing the action alternatives open to African leaders as the *détente* between the U S A and the U S S R. progresses Nigeria, Congo (Kinshasa), and the Republic of South Africa are singled out as the crucial areas where the

The format of the interview schedule and the mode of analysis belong to the pre–World War II era of sociological research, and the theoretical grounding suggests unduly limited dependence on Parsons, Merton, and Park and Burgess. The attempt to employ functionalist theory seems to rest on a confusion between functionalism and interest-group theory. Nevertheless, the effort to relate empirical observation and theory is generally quite effective. Cautiously and lucidly written, the volume will be immensely informative to American sociologists who are unfamiliar with the special flavor of race relations in Britain and to Britons whose stereotypes may have kept them from seeing the situation in this way. The British focus on housing and the American focus on employment suggest the base for a searching comparison between these findings and prevalent patterns in American race relations.

RALPH H. TURNER

University of California, Los Angeles

The Tenement Landlord. By GEORGE STERNLIEB New Brunswick, N.J.: Urban Studies Center, Rutgers, The State University, 1966. Pp. xvii+269 (Paper.)

According to the press, Professor Sternlieb has taken his advocacy of programs to increase resident ownership of tenements from the pages of this book to the halls of Congress. His research on tenement landlords discloses a clear relationship between resident ownership and careful maintenance of slum dwellings. Other data from this study of Newark's deteriorated core, however, point to great obstacles confronting such a program. The single-parcel owner is likely to be incredibly ignorant and fearful of laws pertaining to taxation, rehabilitation, and reassessment. He is likely to have paid an inflated price and to have unsatisfactory financing. He is often aged, is of foreign stock or Negro, and is lacking in capital and motivation for substantial additional investment in his property. To be sure, he may screen and supervise his tenants. He may putter around his property, cleaning up and performing simple maintenance activities that the absentee landlord neglects. But the evidence here suggests that absentee multiple-parcel owners will be much quicker to take advantage of new laws and financial incentives facilitating rehabilitation.

The study was conducted in the early 1960's in Newark. Census data are examined, but the bulk of the analysis rests on structured interviews with 330 owners of multiple-unit structures in run-down sections of the city. A peculiar stratified sampling plan yielded a sample of tenements that, so far as I can tell, is representative of no easily defined universe. Some data refer to parcels, some to owners, and the reader may become confused. There are more than one hundred tables and figures. Myriad miscellaneous findings are interpreted, often drawing on the author's predispositions rather than seasoned data analysis. The style is that of the insufficiently edited survey report, with a deliberate focus on policy implications. Studies of landlords and their attitudes are sparse, however; so, despite shortcomings, this work is important and timely.

KARL E. TAEUBER

University of Wisconsin

Kinship and Casework. By HOPE JENSEN LEICHTER and WILLIAM E MITCHELL. New York: Russell Sage Foundation, 1967. Pp v+343. $7.50.

Leonard S Cottrell (in the Foreword) feels that this research on the social organization of relationships with kin outside the nuclear family deserves "high praise from both social workers and social scientists" for the careful documentation of its essential thesis: that kinship groups are important variables in human existence (a discovery which would probably evoke a most emphatic "Ho hum, I've always said so myself" from Jonathan Swift) and are a significant feature of the social context in which to understand and "treat" clients. While I think the authors' most incisive observation is that the telephone "has not been fully recognized in theories about society" (p. 103), this monograph features several items worthy of comment. It provides some further empirical evidence that the extended kinship group has not been phased out of significance even in an urban industrial context. It draws attention to "environmental diagnosis" (dynamics involving Pigpen, Linus, Lucy, the broader group in Gestalt) rather than limiting atten-

tion to the individual intrapsychic processes generally emphasized in psychiatric theory. Comparisons of value orientations of caseworkers, clients, and aged persons revealed, among other things, a comparatively high tolerance of nonsensical propositions (e.g., children should not leave home before marriage, or parent-child bonds should pre-empt affinal ties) among aged persons than among other clients (intermediate) or caseworkers (low tolerance). Caseworkers tended to attach less significance to extended kin groups than did clients.

The authors claim that "just as it may be essential in medical practice [social workers seem to have a congenital compulsion to affect comparisons between the vocation of social work and the medical profession] to have a broad perspective of knowledge systems that may possibly be significant in a particular illness, the caseworker should be helped . . . by a conceptual scheme that permits a broad coverage of a great many potentially significant factors" (p. 200). I do not, however, see where the authors have succeeded in articulating a "broad framework of concepts" which should be of use to a whole menagerie of administrators, clinicians, and social scientists (as promised on the dust jacket) or which could be of any heuristic value to caseworkers in "treating families."

TOMMY WAYNE ROGERS

Northwestern State College of Louisiana

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Class Identification in the United States[1]

Robert W. Hodge and Donald J. Treiman

ABSTRACT

Data derived from a national sample survey reveal that education, main earner's occupation, and family income have independent effects upon class identification. Multiple regression analyses reveal that ownership of stocks and bonds in private companies, savings bonds, and rental property makes no significant contribution to the explanation of class identification once education, occupation, and income have been controlled These same socioeconomic variables also account for the zero-order associations of race and union membership with class identification. However, indexes based upon the occupational levels of one's friends, neighbors, and relatives make independent contributions to one's class identification which are no less important than those made by education, occupation, and income Thus, class identification rests not only upon one's own location in the status structure but upon the socioeconomic level of one's acquaintances.

"A merchant marine seaman, who was buying an apartment house for investment purposes, owned a tan-colored Cadillac, which he had purchased in a used-car lot the year before because he thought it was a good buy. Since this four-year-old Cadillac was a large gasoline consumer, he was thinking of buying a Plymouth the next time he purchased a car. This 38-year-old business-minded seaman thought that he was 'about middle class as an apartment house owner, and working class as a merchant marine.' "[2] This incident, reported in a study of class identification in Seattle, Washington, makes clear the objective basis of the fundamental ambiguity in social class identification in the United States. If individuals are to form unambiguous images of their positions in a social structure, then the criteria defining that position must themselves be consistent and unambiguous. But when, as in the United States, equally salient *objective* criteria of social status such as education and income share a common variance of no more than 30 per cent, numerous individuals will be able to support different class identifications when different criteria are employed.

Because the low correlations among objective criteria of status generate numerous inconsistencies, many individuals in the United States are able to support a middle-class identification. Some, of course, have an education, income, and life-style close to the average, but others have relatively high education coupled with relatively low income, and, of course, many small businessmen combine quite substantial income with negligible schooling. Indeed, when asked in an open-ended question to identify their class membership, nearly three-quarters of the adult population of the United States volunteer an identification with the middle, average, upper-middle, lower-middle, or a synonymous class. In the same unstructured situation, only 6 per cent mention the working class and another 5 per cent the lower or upper-lower class. Practically no one—less than 3 per cent—denies the existence of social classes.[3]

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[2] I. Roger Yoshino, "The Stereotype of the Negro and His High-priced Car," *Sociology and Social Research*, XLIV (November-December, 1959), 114.

[3] These data are derived from responses to an open-ended question ("What social class do you

Although respondents typically identify with the middle class when allowed to form their own imagery of the class structure, a quite different response pattern can be elicited by precoded questions in which the respondent is asked to identify with the upper, middle, working, or lower class. Centers' investigations during the mid-forties revealed that about two-fifths of the adult male population identify with the middle class in this situation, while slightly more than half report a working-class identification.[4] In this paper, we are concerned with the correlates of replies to structured questions such as those employed by Centers.

SOCIOECONOMIC CORRELATES OF CLASS IDENTIFICATION

Over two decades have passed since completion of the interviewing for Centers' pioneering reports on class identification in America. In the intervening period, real incomes have continued to rise, the secular trend toward higher levels of educational attainment has been perpetuated, and consumer goods once available only to white-collar employees have become standard items in working-class households. A reassessment of the class identifications of Americans is long overdue.

In reviewing class identification in the United States today, we are able to draw upon a national area-probability sample of 923 adults, completed by the National Opinion Research Center in the summer of 1964. With one exception, the structured question soliciting the class identification of respondents was identical to that previously used by Centers. In view of the upward trend in the distribution of real income and of educational attainment, the upper-middle class was added to the standard options of upper, middle, working, and lower classes as permissible response categories. Among the 918 persons responding to the question, 16.6 per cent identified with the upper-middle class, 44.0 per cent with the middle class, and 34.3 per cent with the working class. Less than 1 per cent denied the existence of classes in response to this structured question, while 2.2 per cent identified with the upper class and 2.3 per cent with the lower class. The over-all distribution of class identification departs somewhat from that reported by Centers for 1945. About 15 per cent less of the population now identifies with the working class, precisely what one expects to find in view of the higher level of living now enjoyed by the population. However, part of the decline doubtless reflects the inclusion of the additional response option—upper-middle class—in our question, a point which renders precise comparison impossible.

As the first step in our analysis, we investigated the relationship between class identification and three standard socioeconomic indicators: years of school completed by the respondent (E), family income in hundreds of dollars (I), and occupation of the family's main earner (S). The latter variable was constructed by first coding the occupational returns into the major occupation groups of the U.S. Bureau of the Census and then scoring them according to Duncan's socioeconomic index.[5] The dependent variable, class identification (C), was derived by arbitrarily scoring the permissible response categories; respondents identifying with the lower, working, middle, upper middle and upper class were assigned the scores 1, 2, 3, 4, and 5, respectively. Although such an arbitrary scoring of the class identification variable is not wholly justified, it does allow us to utilize regression techniques which make it possible to

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consider yourself a member of?") included in a national sample survey of 923 adult Americans conducted by the National Opinion Research Center in the summer of 1964.

[4] See Richard Centers, *The Psychology of Social Classes* (Princeton, N.J.: Princeton University Press, 1949), p. 77, Table 18.

[5] Socioeconomic scores for major occupation groups are given in Otis Dudley Duncan, "Properties and Characteristics of the Socioeconomic Index," in Albert J. Reiss, Jr., *et al.*, *Occupations and Social Status* (New York: Free Press, 1961), p. 155, Table vii-4.

summarize relatively complex relationships in a limited space. Except when discussing well-known relationships, we attempt throughout the paper to hedge against possible distortion resulting from the use of correlations and regressions and from our scoring of the class identification variable by presenting the basic findings in tabular form.

From the multiple regression of class identification on education, family income, and main earner's occupation, we find that the regression coefficients in standard form are as follows: $b^{*}_{CE\cdot IS} = .1145$; $b^{*}_{CI\cdot ES} = .1514$; and $b^{*}_{CS\cdot EI} = .2744$. Since they are at least three times as large as their respective standard errors, each of the coefficients is highly significant, indicating that respondent's education, family income, and main earner's occupation make significant, independent contributions to an individual's class identification.[6] Main earner's occupation appears, however, to be relatively more important than either respondent's education or family income. The partial correlation between C and S, holding constant I and E, is .241, a value almost twice as large as either $r_{CE\cdot IS}$ or $r_{CI\cdot ES}$. The relative importance of main earner's occupation in the formation of an individual's class identification may reflect the tendency for individual family members to derive their own position in the status structure from the achievements of the household head.

Although education, income, and main earner's occupation are significant foci of class identification in the United States, they collectively explain less than one-fifth of the variance in close identification ($R^2_{C(EIS)} = .196$). In part, the failure of objective measures of socioeconomic status to explain fully patterns of class identification may be traced to the relatively low intercorrelations between these indicators. Education, income, and occupation do not cumulate in a manner conducive to the formation of a well-defined, objective class structure around which class identifications can be unambiguously formed. Instead, the relatively loose relationships between education, income, and occupation imply that the upper and lower classes, which might be distinguished by consistently high and low values on these variables, involve but a small fraction of the total population, leaving a large majority with inconsistent values on these objective status indicators and, consequently, with undetermined class identifications. The failure of class consciousness to crystallize *uniquely* around objective measures of socioeconomic status is, therefore, partially engendered by the loose associations between such objective measures.

The force of the argument advanced in the preceding paragraph may be evaluated by reference to some hypothetical calculations which examine the effects of assuming an unusually high correlation between respondent's education and family income. These hypothetical results were derived in the following manner:

Step 1: Given the observed marginal distributions of respondent's education and family income, assign frequencies to their joint, bivariate distribution so as to maximize the association between them.[7] Call the resulting cross-tabulation Table A for future reference. (The product-moment correlation in Table A is *not* unity, because the observed marginal distributions of family income and respondent's education constrain the correlation between income and education to less inclusive limits than plus or minus one.)

Step 2: From the actual data, derive the

[6] The regression results presented here, and all subsequent regression results, are based on the replies of 847 respondents, the number remaining after the exclusion of respondents with "don't know" or no answers on class identification, education, main earner's occupation, family income, or any of the variables entered in the various multiple regressions described later in this paper

[7] The procedure for assigning the frequencies is described in some detail in C. Arnold Anderson, "A Skeptical Note on the Relation of Vertical Mobility to Education," *American Journal of Sociology*, LXVI (May, 1961), pp. 569-70, Appendix A.

simultaneous cross-classification of respondent's education, family income, and class identification, and then calculate the probability distribution of class identifications *within* each combination of respondent's education and family income. Call the resulting set of conditional probabilities Table B for future reference.

Step 3: To derive Table C, apply the probability distributions in Table B to the corresponding frequencies in Table A. Table C is just a hypothetical cross-tabulation of respondent's education, family income, and class identification in a universe where (1) the association between income and education is maximized within the constraints of their marginal distributions, and (2) the conditional probabilities of making any particular class identification, given respondent's education and family income, are identical to the corresponding conditional probabilities as observed in the United States today.

TABLE 1

SUMMARY OF OBSERVED AND HYPOTHETICAL REGRESSIONS AND CORRELATIONS BETWEEN RESPONDENT'S EDUCATION, FAMILY INCOME, AND CLASS IDENTIFICATION

Measures of Relationship	Observed	Hypothetical
Zero-order correlations:		
Education and income	428	922
Education and class identification	.315	429
Income and class identification . . .	321	.469
Regression coefficients in standard form:		
$b^*_{cs \cdot i}$	.218	− 016
$b^*_{ci \cdot s}$	.228	483
Multiple correlation:		
$R_{c(si)}$	.377	.469
$R^2_{c(si)}$	.142	220

Step 4: Add the frequencies in Table C across income categories to obtain a zero-order cross-tabulation of respondent's education and class identification. Call the resulting cross-tabulation Table D. Similarly, add the frequencies in Table C across education categories so as to obtain a zero-order cross-tabulation of family income and class identification. Call this cross-classification Table E.

Step 5: Scoring income and education according to the midpoints of the categories used in the preceding cross-tabulations and assigning the integers 1–5, in the manner previously described, to the permissible class identifications, compute zero-order product-moment correlations for Tables A, D, and E. These hypothetical zero-order correlations may then be used to derive all multiple correlations and related statistics

The correlations derived in the final step of these calculations are the associations between respondent's education, family income, and class identification which would pertain in a hypothetical universe where (1) the correlation between education and income is maximized within the constraints of the observed marginal distributions of these two variables, and (2) the conditional probabilities of making any particular class identification, given one's education and family income, have been equated to those observed in the United States today.

The results derived from the hypothetical calculations described above are presented in Table 1, together with corresponding results observed in the actual data. As the reader can see in the table, the zero-order correlations of class identification with both education and income are somewhat larger in the hypothetical universe where income is largely determined by education than those observed in the United States today. However in the hypothetical universe education has no independent effect on class identification, whereas in the observed data both family income and respondent's education are important foci of class consciousness. As postulated, in the hypothetical universe where the levels of one's education and one's income have been made *consistent*, *respondent's education* and family income explain a larger fraction of the variance in class identification than in the actual world, where numerous inconsistencies between income and education

produce conflicting bases of class identification. Indeed, in the hypothetical universe, education and income not only explain half again as much variance in class identification as they do in the United States today but also explain slightly more variance by themselves than they *and* main earner's occupational SES explain in the actual data. In sum, class consciousness, although it is clearly related to objective indicators of SES, is not uniquely determined by them. In part, the failure of subjective class identifications to crystallize around objective features of the stratification system is attributable to the fact that different objective aspects of one's position in the class structure do not themselves cumulate into a well-defined class system. However, even in the hypothetical society where income and education are as consistent as possible, the role of respondent's education and family income in determining class identification remains unimpressive. It behooves one, therefore, to seek other bases of class consciousness.

SOCIOECONOMIC STATUS AND PROPERTY

Doubtless one of the more important reasons for the failure of class identification to crystallize around objective indicators of social position such as education and income is the fact that these characteristics have little influence on the access of individuals to capital investments. To explore this question, we investigated the relationship of socioeconomic indicators to ownership of stocks and bonds in private companies, savings bonds, and rental property. Table 2 shows the relationship of each of these three kinds of capital investment to three indicators of SES: occupation of main earner, years of school completed by the respondent, and family income. The table also gives the point biserial correlations of each kind of capital holding with each social status indicator. As one can see from the table, ownership of rental real estate, savings bonds, and stocks in private companies are systematically related to each of the socioeconomic variables. However, while ownership of each of these forms of capital is, for the most part, monotonically related to education, occupation of main earner, and family income, one can see from the point biserial correlations that these relationships are relatively weak ones. Even though low SES, however measured, clearly *limits* access to various kinds of capital investments, it by no means poses an insurmountable barrier. Although the relationships of savings bond and stock ownership to SES are stronger than those observed for possession of rental real estate, none of the point biserial correlations exceeds .421. Persons of all socioeconomic backgrounds can acquire capital holdings which serve both to integrate them meaningfully into the larger economic system and to secure their commitment to the established economic enterprise. These objective patterns can only serve to hinder the development of class consciousness on the basis of either objective status differentials or ideological conflicts.

Although the dispersion of rental property ownership and other capital holdings throughout the objective status structure destroys the identity between economic and objective class interests and poses an obstacle to the formation of interest groups around objective features of the stratification systems, we do not find that capital holdings per se are closely related to class identifications. When three dummy variables representing ownership of rental property, savings bonds, and stocks and bonds in private companies are included as predictors of class identification in a multiple regression, together with respondent's education, family income, and main earner's occupational SES, we find that the coefficient of determination is not substantially improved over that observed when only education, income, and occupation are entered in the regression equation.[8] The

[8] When only education, occupation of main earner, and family income are entered as independent variables, the square of the multiple correlation

partial regression coefficients in standard form for education, family income, and occupation of main earner are virtually unchanged by adding the three dummy variables representing capital holdings to the regression equation.[9] Possession of stocks and bonds in private companies is, however, significantly associated with

coefficient is .196; adding the dummy variables for ownership of rental property, savings bonds, and stocks and bonds in private companies increases the square of the multiple correlation coefficient to 201, or by about one-half of 1 per cent.

[9] The partial regression coefficients in standard form for respondent's education, occupational SES of main earner, and family income in this case are .1054, .2612, and .1301, respectively. When only education, occupation, and income were used as

TABLE 2

RELATIONSHIPS OF OCCUPATION OF MAIN EARNER, YEARS OF SCHOOL COMPLETED, AND FAMILY INCOME TO POSSESSION OF VARIOUS KINDS OF CAPITAL: UNITED STATES, 1964

Socioeconomic Variables	Rental Real Estate	Savings Bonds	Shares, Stocks, or Bonds in a Private Company	Cases (N)
	Percentage Having Each Kind of Item			
Education:				
College completed	19 2	55 6	57 6	99
Some college	17.0	50 9	47 2	106
High school completed	11 3	31 5	25 7	257
1-3 years of high school	15 9	20 9	13 6	220
8th grade completed	18 0	27 9	18 9	111
Less than 8th grade	8 5	16 2	6 9	130
Occupation.				
Professional	18 3	47.1	49 0	104
Managerial	18 7	47.2	47 9	144
Clerical	9 5	40 5	27 0	74
Sales	19 2	36 5	42 3	52
Craftsmen	11 9	27 8	17 9	151
Operatives	5 8	23 9	6 5	155
Service and private household	11 2	14 6	7 9	89
Laborers	21 8	14 5	10 9	55
All farm	18 6	18 6	20 0	70
Family income:				
Greater than $10,000	22 7	46 0	59 5	163
$7,000-$9,999	14 2	40 9	28 4	176
$5,000-$6,999	13 0	34 0	20 5	200
$3,000-$4,999	10 9	22 4	13 7	183
Less than $3,000	10 9	14 8	7 7	183
	Point Biserial Correlations			
Education.	.055	.240	327	923
Occupation	.062	.250	.357	894
Income.... ...	117	.232	.421	905

NOTE.—Number of cases departs from total sample size of 923 due to "don't know" responses; point biserial correlations were computed before grouping data into categories shown in table; education and income were scored according to midpoints of intervals identified in original source, major occupation groups were scored with Duncan's SES index (see Duncan, *op. cit.* [n. 5 above]).

higher levels of class identification, even after controlling for education, income, main earner's occupation, ownership of rental property, and possession of savings bonds. But the partial regression coefficient in standard form of the dummy variable representing ownership of stocks and bonds in private companies is not large (.0784), even though it is twice its estimated standard error.[10] Consequently, various types of capital holdings do not appear to have any substantial, direct effect upon class identification. However, their dispersion throughout the objective class structure may serve to further confound the clarity of such objective features of the stratification system as education, occupation, and income as bases for class identification.

A fair summary of our findings to this point and their implications was provided by Alfred Winslow Jones over a quarter of a century ago. Studying the distribution of replies to an inquiry soliciting whether respondents identified with the upper, middle, or lower class, Jones observed, "In a situation where four out of five citizens think of themselves as neither above nor below the middle class, the objective economic classification of the population is feebly reflected and there is little corresponding class consciousness."[11] Owing to the limitation of the permissible response categories in the item studied by Jones, this claim is not quite an adequate summary of our own results. It does not, however, miss the mark by far, for our own data reveal no isomorphism between economic groups and class identification. Jones's comment on this situation still applies:

> Men are obviously not equal—either in skill, intelligence, persistence, frugality, or in wealth, or even in opportunity—but one man's dollar is the equal of any other in the places where things are bought and sold. The money economy, commodity production, and the market lend a pervasive illusion of equality. Even in the exchange that takes place when a man is hired there is every appearance of an equal and free market transaction. All of this, it may be argued, has contributed to the idea of equal, free citizenship, equality before the law, the generality of the law, and the basic notions of classlessness which are so closely related to democracy.[12]

Noting that the whole population adopts an acquisitive orientation in a pecuniary culture politically committed to the minimization of class barriers and the provision of opportunities for social mobility, Jones continues:

> In such a situation it is quite natural that what is acquired in the course of the climb should be uniquely related to the person that acquires it. Property is then not thought of as the prerogative of any class or group but as the desirable end in a free-for-all struggle in which all not only may but should participate, the winner in some cases being willing to acknowledge that his success puts him in a "better class," the loser tending to blame either himself or his luck. To deny, in this situation, the claims of acquired property would be . . . an act of extreme rebellion against all the authority of things constituted as they are.[13]

The failure of class consciousness to crystallize around economic groups promotes, according to Jones's reasoning, a sense of equality which fosters democratic attitudes. The differentiation of men is regarded as a product of individual differences rather than an outcome of their group membership. Access to property and other forms of capital investments is open to all men, regardless of their station in life. Such a pattern tends to void the interest theory of classes by creating an internal economic differentiation of social groups which is as

independent variables, their partial regression coefficients in standard form were .1145, .2744, and .1514, respectively.

[10] The partial regression coefficients in standard form of the dummy variables for ownership of rental property and possession of savings bonds are −.0208 and .0022, respectively.

[11] Alfred Winslow Jones, *Life, Liberty, and Property* (New York: Octagon Books, 1964), p. 348 (this volume was originally published in 1941).

[12] *Ibid.*, p. 349.

[13] *Ibid.*, p. 350.

large or larger than the differentiation between them. The individualistic ideology itself tends to counter the development of well-defined and widely recognized class groups by attributing the causes of individual successes and failures to individual differences rather than to social-group memberships.

CLASS IDENTIFICATION OF UNION MEMBERS

The vitality of an interest theory of classes cannot be fully judged by reference to the relationship between socioeconomic variables and class identification. While class identification may fail to exhibit a perfect isomorphism with socioeconomic groups, it might bear a closer connection to aggregates formed by their relationship to the means of production. This is particularly so in the case of union members whose positions in the structures of thousands of individual firms are given expression in formal organizations of workers.

For currently married persons, the upper panel of Table 3 shows the relationship of respondent's and spouse's union membership to class identification. As the reader can see, both respondent's and spouse's union membership exhibit positive zero-order associations with class identification. Those who are themselves current union members and whose spouses are current union members are more likely to identify with the working or lower class than those who were never or who were formerly union members or whose spouses were never or were formerly union members. If anything, former union members and those whose spouses are former union members are less likely to identify with the working or lower class than those who themselves or whose spouses were never union members. Although current union membership appears to bear a zero-order relationship to class identification, the results in Table 3 suggest that a past history of union membership exerts no influence over one's current conception of one's class position.

The upper panel of Table 3 also reveals that the zero-order relationship between union membership and class identification persists after controlling for spouse's union membership. Similarly, the zero-order association between spouse's union membership and class identification is not explained by respondent's own union membership. Consequently, both respondent's and spouse's union membership appear to have independent effects upon class identification. However, controlling for sex of respondent appears to complicate the results observed for all respondents combined. Among males who are themselves current union members, wife's union membership appears to have no effect upon class identification. The results for women, as far as they go, suggest that husband's union membership continues to affect wife's class identification. Since men are typically the main earners for families, it seems plausible that their own class identification should not be affected by the union membership of their wives but that the class identification of wives should be influenced by the union membership of their husbands. Unfortunately, the present data do not admit of a definitive conclusion on this point. Since relatively few currently married women are also current union members, there is an insufficient number of sample cases to support a number of critical comparisons *within* sex groups.

RACIAL ACCESS TO PROPERTY

Racial differentiation is one of the major dimensions of social stratification in the United States. The ratio of Negro to white capital is much less than the ratio of the Negro to the white population.[14] As the reader can see from Table 4, the pattern of capital investments held by Negroes is very different from that of whites. Ownership of rental real estate is not too different for

[14] At least one economist has estimated this ratio to be as small as 1:150. See Gary S. Becker, *The Economics of Discrimination* (Chicago: University of Chicago Press, 1957), p. 20.

TABLE 3

CLASS IDENTIFICATION BY SEX AND UNION MEMBERSHIP HISTORY OF RESPONDENT AND SPOUSE, FOR CURRENTLY MARRIED PERSONS: UNITED STATES, 1964

SEX AND UNION MEMBERSHIP HISTORY OF RESPONDENT	TOTAL RESPONDENTS	UNION MEMBERSHIP HISTORY OF SPOUSE		
		Current Union Member	Former Union Member	Never Union Member
	Percentage Identifying with Working or Lower Class*			
All respondents	36.0	44.4	28.3	35.5
Current union members	46.1	58.8	42.9	43.1
Former union members	33.9	46.7	23.1	32.4
Never union members	34.5	40.0	27.3	34.8
Male respondents	37.3	45.5	21.6	39.0
Current union members	44.4	45.5	46.2	43.9
Former union members	29.8		7.1	33.9
Never union members	37.7		10.0	39.3
Female respondents	34.8	44.2	31.9	30.8
Current union members	...	...	...	...
Former union members	41.9	50.0	41.7	
Never union members	33.0	38.8	30.4	31.5
	Bases for Percentages (N)†			
All respondents	631	117	106	408
Current union members	89	17	14	58
Former union members	127	30	26	71
Never union members	415	70	66	279
Male respondents	295	22	37	236
Current union members	81	11	13	57
Former union members	84	8	14	62
Never union members	130	3	10	117
Female respondents	336	95	69	172
Current union members	8	6	1	1
Former union members	43	22	12	9
Never union members	285	67	56	162

* Percentages not shown where base is less than ten cases.

† The total sample is distributed as follows

Currently married	693
Total cases in table	631
No answer or "don't know" on class identification only	8
No answer on union membership only	19
No answer on spouse's union membership only	19
No answer on both union membership and spouse's union membership	16
Not currently married	230
Total sample	923

the two groups, although the small percentage difference probably would be greatly increased if data on assessed valuation of property holdings were available. A much larger fraction of whites than Negroes holds savings bonds and shares in private companies. Of course, well-known white-Negro differences in income could account for the observed pattern. However, indirect standardization for family income does not affect the zero-order relationships in any substantial way.[15] Judging from the values of Yule's Q, the two races are most highly differentiated by stockholding. This last finding reflects both the kinds of corporations controlled by Negroes and the investment habits of the Negro population. Were data on accounts in savings and loan associations available, the races likely would be less noticeably differentiated. Savings accounts may play a role in the Negro community similar to that filled by blue-chip stocks in the white community.[16]

Differences between whites and Negroes in their patterns of capital investment are reflected in the class identifications of the two groups. We find that 51.7 per cent of Negroes ($N = 122$) identify with the working or lower class, while 34.8 per cent of whites and members of other races ($N = 773$) make similar identifications. How-

TABLE 4

RELATIONSHIP OF RACE TO POSSESSION OF VARIOUS KINDS OF CAPITAL, INDIRECTLY STANDARDIZED FOR INCOME: UNITED STATES, 1964

Race	Rental Real Estate	Savings Bonds	Private Stocks and Bonds	Cases (N)
	Actual Percentage Having Each Item			
All races	14 1	31 3	25 1	905
White and other races	14 8	33 6	28 1	783
Negro	9 8	16 4	5 7	122
	Indirectly Standardized for Income			
White and other races	14 5	32 8	26 8	783
Negro	11 1	19 8	8 2	122
	Yule's Q			
Association of race with capital investments	229	441	730	905

NOTE.—Number of cases departs from total sample size of 923 due to "don't know" responses on family income, which were used to perform the standardization.

[15] For a discussion of the procedure variously known as indirect standardization and the method of expected cases, see George W. Barclay, *Techniques of Population Analysis* (New York: John Wiley & Sons, 1958), pp. 161 ff. An excellent overview of procedures of standardization is given by Evelyn M. Kitagawa, "Standardized Comparisons in Population Research," *Demography*, I (1964), 296–315.

[16] This discussion is largely speculative, though it could easily be checked with data obtained in consumer finance studies conducted by the Survey Research Center of the University of Michigan. For an analysis of one of these surveys and a sample questionnaire, see James N. Morgan, Martin H. David, Wilbur J. Cohen, and Harvey E. Brazer, *Income and Welfare in the United States* (New York: McGraw-Hill Book Co., 1962).

ever, more than half of the total difference of 16.9 per cent is accounted for by family income. After indirect standardization for income, the percentages of whites and Negroes identifying with the working or lower class are 36.0 per cent and 43.9 per cent, respectively. Despite their systematic exclusion from many areas of social life, Negroes appear, then, to assume class identifications which are in large part appropriate to their economic positions.

Expansion of the multiple regression equation discussed in the section "Socioeconomic Status and Property" to include dummy variables for race and union membership confirms the conclusion that neither race nor union membership per se has any appreciable effect on the formation of class identification. The partial regression coefficient in standard form of the dummy variable for race, which takes the value 1 if the respondent is non-Negro and the value 0 if the respondent is a Negro, is —.0375. This coefficient not only has the wrong sign but also is less than one and one-half times as large as its standard error. The partial regression coefficient in standard form of the dummy variable for current union membership, which takes on the value 1 if the respondent is currently a union member and the value 0 otherwise, is only —.0360, a coefficient which is also less than one and one-half times as large as its standard error. Thus, neither race nor union membership exhibit any significant relationship to class identification, once controls for SES and economic possessions are introduced. The coefficients of the remaining variables in the multiple regression analysis are essentially unchanged by inclusion of the dummy variables for race and union membership.[17]

STATUS CONTACTS AND CLASS IDENTIFICATION

To this point we have explored only the association between various aspects of the respondent's own station in life and his class identification. Because socioeconomic variables are not themselves highly intercorrelated, a person's education, income, occupation, and capital holdings may frequently provide conflicting inputs about the class identification appropriate to his objective status. Individuals whose objective status is not crystallized will not necessarily resolve the dilemma in identical ways. One factor upon which the direction of the resolution may be contingent is the pattern of status contacts maintained by the individual.

Detailed information about the status contacts of individuals is not available to us. However, we do know whether or not each respondent has friends, neighbors, and relatives in certain broad occupational groups. Using these data, we constructed two variables reflecting the extent of each respondent's high status contacts and the extent of his low status contacts. The high status contact variable was constructed by giving the respondent one point if he has any friends who are professionals *or* businessmen, a point if he has any neighbors who are in either of these groups, and a point for having any relatives in either of the groups. The low status contact variable was derived in a similar manner: the respondent receives a point for having any friends who are factory *or* unskilled workers and additional points for having any neighbors or relatives in these occupational categories. So defined, both variables have a range from 0 to 3. Although these variables do not provide a detailed accounting of the respondent's actual amount of contact with persons of high and low status, they do distinguish respondents on the basis of their opportunities for such contact.

[17] The partial regression coefficients in standard form of the remaining variables included in the regression are as follows: respondent's education, .1054; main earner's occupational SES, .2577; family income, .1408, ownership of stocks and bonds in private companies, .0758; possession of rental property, —.0222; and ownership of savings bonds, .0066. The coefficient of determination associated with the regression is .204.

The upper panel of Table 5 shows the percentage of respondents identifying with the upper or upper-middle class by the number of high and low status contacts. Each variable has an independent effect on class identification: The fraction of respondents identifying with the upper or upper-middle class increases as high status contacts become more numerous and declines as low status contacts increase. Although patterns of informal contacts with persons of varying SES would be expected to reflect, to some extent, the objective status of respondents, indirect standardization for both education and family income attenuates these relationships but does not invalidate the basic conclusion, as the reader can see from the second panel of Table 5.

A quantitative assessment of these relationships may be effected by calculating the multiple regression of class identification on low status contacts, high status contacts, respondent's education, occupational SES of main earner, and family income. The partial regression coefficients in standard form associated with each variable are as follows: occupation of main earner, .2173; low status contacts, —.2150; high status contacts, .1240; family income, .1120; and education, .0758. Every coefficient is significant, as each is at least twice the size of its standard error; the coefficients of the high and low status contact variables are more than three times their standard errors. The results are unambiguous and imply that the net effects of low and high status contacts on class identifi-

TABLE 5

CLASS IDENTIFICATION BY HIGH AND LOW STATUS CONTACTS, INDIRECTLY STANDARDIZED FOR EDUCATION AND INCOME: UNITED STATES, 1964

Number of Low Status Contacts	Number of High Status Contacts				
	0	1	2	3	Total
	Actual Percentage Upper or Upper-middle Class				
All cases	4 6	13 5	16 0	30 8	18 8
0	8 3	20 8	47 6	57 1	40 4
1	0 0	21 7	25 0	50 0	27.1
2	3 6	15.7	17 5	26 6	18 0
3	6 8	4 6	3 8	17 1	9 1
	Indirectly Standardized for Education and Family Income				
0	12 7	16 3	34 4	27 4	. . .
1	0 0	26 5	25 8	28 1	
2	6 2	19.7	17 5	20 8	
3	10 1	7 6	5 2	16 4	
	Number of Cases (*N*)				
Total, all cases	108	222	262	283	875
0	12	24	21	42	99
1	24	60	56	48	188
2	28	51	80	64	223
3	44	87	105	129	365

NOTE.—Number of cases departs from total sample size of 923 because of "don't know" responses

cation are larger than those of education and family income and as large as that of main earner's occupational SES. The multiple correlation associated with the regression equation is .494, a value which indicates that the five variables under consideration fall far short of a full explanation of patterns of class identification. The multiple correlation of respondent's education, main earner's occupation, and family income with class identification is .443. Thus, the multiple partial correlation of the status contact variables with class identification, holding constant education, main earner's occupation, and income, is given by the square root of

$$[(.494)^2 - (.443)^2]/[1 - (.443)^2],$$

or .244.[18] Whether one interprets the data in tabular form, the net regression coefficients in standard form of the contact variables, or the multiple partial correlation of the contact variables with class identification, one is led to the same conclusion: A person's class identification depends as much on who he knows as on where he is in the class structure.

SUMMARY AND CONCLUSIONS

In this paper we have examined the relations between a number of socioeconomic characteristics of individuals and their social class identification, finding only modest associations between class identification and SES. Nearly two decades ago, Centers concluded upon completion of a similar investigation that "a man's way of getting his livelihood dominates much of his waking life, and it is out of the forces acting upon him in this economic sphere that class consciousness has been seen to emerge. That it structures itself primarily around the economic self-interest born of status and role and the forces of economic circumstance is a wholly reasonable discovery."[19] Our own research demands substantial revision of this conclusion. Clearly, a person's class identification depends in part upon his economic status and his relationship to the means of production. However, these effects are not of sufficient magnitude to create a manifest consensus in the class identification of large social groups sharing similar economic status.

The major defect of the interest theory of classes is not, however, its exaggeration of the role of economic position in the formation of class consciousness. The primary fault lies in its systematic neglect of the great range of between-class contacts which are open to many citizens. Our data demonstrate that patterns of acquaintance and kinship between various status groups, as well as their residential heterogeneity, are no less important than the socioeconomic position of individuals in the formation of class identities. Such interclass contact is one cornerstone of democracy, preventing the emergence of social issues which would pit group against group in a class struggle.

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[18] For an example of the use and interpretation of the multiple partial correlation coefficient, see C. Horace Hamilton, "Population Pressure and Other Factors Affecting Net Rural-urban Migration," *Social Forces*, XXX (December, 1951), 209–15

[19] Centers, *op. cit.*, p. 218

Occupational Prestige Expectations among Male College Graduates[1]

Joe L. Spaeth

ABSTRACT

Path analysis shows that occupational prestige expectations held three years after college graduation are related to graduate enrolment and expectations held during the senior year. These, in turn, are related to college grades and earlier prestige expectations. Even as early as the freshman year, prestige expectations are only weakly related to parental socioeconomic status, although they are related to intellectual ability The low relation between prestige expectations and parental SES is consistent with earlier work which showed that the effects of parental SES on actual occupational attainment are largely transmitted by education.

The role of education in promoting occupational attainment has long been recognized, and recent research has been able to provide a sound quantitative basis for estimating its importance. Educational attainment has a marked direct effect on the prestige of one's first job, and most of the substantial effects of parental SES are transmitted by education.[2] Being reared in a high-SES home provides access to higher levels of education, and these in turn open up opportunities for high-prestige jobs.

However, since education has usually been treated as a quantitative variable in most of the research cited, the role of higher education in occupational attainment has not been extensively studied.[3] It is clear that the most prestigious occupations require considerable education beyond high school and that many of these occupations require graduate degrees. College itself can be viewed as a period during which young people prepare themselves for careers in middle-class occupations. Since most college students know what careers they are preparing for, it is possible to analyze some of the determinants of occupational prestige *expectations* before all of a college graduating class has entered the labor force. Prestige expectations can be considered a link between the background factors, like parental SES and intellectual ability, and the prestige of a man's actual occupation.

Since this report will deal with men who actually graduated from college, a brief

[1] The research reported herein was supported through the Cooperative Research Program of the Office of Education, U S. Department of Health, Education, and Welfare, under contract SAE-9102, and by the National Institutes of Health under grants M5615, M5615-02, M5615-03, M5615-04, and M5615-05. For advice and comments at various stages of this paper, I am indebted to Otis Dudley Duncan, Bruce K. Eckland, Paul M. Siegel, and Charles A. Werts.

[2] Peter M. Blau and Otis Dudley Duncan, *The American Occupational Structure* (New York: John Wiley & Sons, 1967), esp. pp. 163–77; Otis Dudley Duncan and Robert W. Hodge, "Education and Occupational Mobility: A Regression Analysis," *American Journal of Sociology,* LXVIII (May, 1963), 629–44; Otis Dudley Duncan, "Path Analysis: Sociological Examples," *American Journal of Sociology,* LXXII (July, 1966), 1–16; Bruce K. Eckland, "Academic Ability, Higher Education, and Occupational Mobility," *American Sociological Review,* XXX (October, 1965), 735–46; and Robert W. Hodge, "Occupational Mobility as a Probability Process," *Demography,* XXX (1966), 19–34.

[3] Eckland's excellent analysis (*op. cit.*) of the occupational achievement of University of Illinois graduates suffers from being confined to one college only.

discussion of the determinants of college entry and graduation will help to place it in proper perspective. College entrance is conditioned by two sets of related characteristics—intellectual ability and parental SES. Each of these two sets of factors contributes importantly in explaining college entrance, with I.Q. somewhat more important than SES among men. It is also true, apparently, that both sets of variables have an impact on eventual graduation from college.[4] The best research reported to date, however, indicates that both the socioeconomic variables and academic ability are only weakly related to occupational attainment, *given college graduation.*[5]

In other words, the *direct* effects of SES on occupational attainment are negligible, though certain indirect effects are quite important. It is also apparently the case that the effects of ability are almost totally indirect, given college graduation.[6] It is within this context that analysis of male college graduates' prestige expectations must take place. A particularly important point to remember is the proper interpretation of the small SES effects shown below. Parental SES is not unimportant, but its effects are indirect among college students.

This paper will deal with the effects of three sets of variables on occupational prestige expectations held during the third year after college graduation: (1) parental SES, (2) intellectual ability and academic performance, and (3) prior prestige expectations, beginning with those held during the freshman year in college. Parental SES will be shown to be only weakly related to freshman prestige expectations, in accord with earlier findings regarding the impact of parental characteristics on occupational achievement, net of educational attainment. The rest of the paper will investigate the effects of intellectual and academic performance on prestige expectations in light of the considerable stability shown by the latter variables.

THE DATA

Data for this analysis were collected in the National Opinion Research Center's four-year longitudinal study of June, 1961, college graduates. In 1961, a two-stage probability sample was drawn. The first stage was a sample of 135 of the accredited baccalaureate-granting institutions in the United States, and the second was a sample of prospective graduates of the 135 colleges. All 135 schools co-operated; 85 per cent of the students sampled returned questionnaires during their last few months before graduation. Three additional waves of questionnaires were administered during the next three years. Response rates for these waves were 76 per cent, 72 per cent, and 59 per cent. Half of the original 41,000 returned usable questionnaires for all four waves of the study, and the males from this last group provide the data for this paper. Since smaller colleges were underrepresented in the design, responses of their graduates have been weighted to bring them into proper proportion.[7]

Prestige expectations were measured at three points in time—during respondents' freshman year in college (from a retrospective question in the senior-year questionnaire), during respondents' senior year, and three years after graduation.

The four-year span of the study is not long enough to permit an analysis of actual

[4] Lyle F. Schoenfeldt, "Post-High School Education," in John C. Flanagan and William W. Cooley, *Project Talent: One Year Follow-up Studies* (Pittsburgh: Department of Education, University of Pittsburgh, 1966), pp. 92–96; William H. Sewell and Vimal P. Shah, "Socioeconomic Status, Intelligence, and the Attainment of Higher Education," *Sociology of Education*, XL (Winter, 1967), 1–23.

[5] Bruce K. Eckland, "College Dropouts Who Came Back," *Harvard Educational Review*, XXXIV (1964), 402–20.

[6] Eckland, "Academic Ability."

[7] For further details on the original sample, see James A. Davis, *Great Aspirations: The Graduate School Plans of America's College Seniors* (Chicago: Aldine Publishing Co., 1964), pp. 269–94. As yet unpublished analyses indicate that nonresponse bias induced by panel attrition is negligible.

occupational attainment. Too many of the men expecting to be in high-prestige occupations were still in graduate or professional school in their third year after graduation.

Many of the recent studies of occupational attainment have used occupational prestige as a dependent variable, commonly measured by Duncan's estimates of 1948 NORC scores.[8] This report will use a measure developed in NORC's most recent study of occupational prestige. Respondents were asked to place each of over two hundred occupations into one of nine ordered groups. Occupations were scored on the basis of this ranking. Since most of the occupations asked about could be matched with detailed census categories, a person can be assigned an occupational prestige score based on his occupation coded into detailed census categories. The college graduate study did not have information available in this form, however. Instead, data were available for each of three stages on the field (generally corresponding to an academic discipline or a major profession) that a person intended to work in and—for the last two periods—the kind of employer he expected to work for. These two pieces of information yielded an approximation to census categories for about 90 per cent of the respondents. These were then given NORC scores by a computer program written at NORC.

The list of disciplines included such academic fields as chemistry, physics, botany, zoölogy, English, history, sociology, economics, and political science; various engineering specialties; medicine, dentistry, and other health fields; law; various specialties in business; and education. The question on the prospective employer distinguished among colleges and universities; school systems; private corporations; federal, state, and local governments; and self-employment. Men in "academic" disciplines were separated into three census groups according to their expected employers. Those anticipating careers in science, for example, were classified as professors if they mentioned university employment, schoolteachers if they mentioned a school system, and "scientists, n.e.c." (not elsewhere classified) if they mentioned another kind of employer. Professions such as law, medicine, dentistry, and engineering were assigned to the corresponding census categories. Respondents in education were classified as "teachers" except for the small minority who said that they anticipated academic employment; these were called "professors." Men who chose business careers were assigned to the category, "proprietors, managers, and officials, n.e.c.," unless they anticipated academic employment. The prestige of proprietors, managers, and officials is not high, especially compared with that of other occupations chosen by college graduates, and this classification is probably the most suspect of those made. A census category for business executives would probably have allowed for a more realistic classification of responses.[9]

The prestige scores are the key dependent variables in this paper. The independent variables can be divided into three groups: (1) socioeconomic variables—parental income, education, and occupation; (2) intellectual variables—ability, academic performance, and the intellectual caliber of a person's college; and (3) the prestige expectations themselves. Three separate measures of parental SES have been included—the father's occupation, coded from open-ended responses into census categories and translated into NORC scores; father's educational attainment, asked in traditional survey terms (no high school, some high school, high school graduate, etc.) and translated into years of

[8] Otis Dudley Duncan, "A Socioeconomic Index for All Occupations," in Albert J. Reiss, Jr., *Occupations and Social Status* (New York: Free Press, 1961), pp. 109–38.

[9] For further details on NORC's occupational scoring procedure, see Robert W. Hodge and Paul M. Siegel, "Methods and Procedures for Rating Occupations" (unpublished manuscript, NORC, January, 1964).

schooling; and family income, also a pre-coded question translated into numerical terms.[10]

There are four measures of intellectual ability or performance. Scores on one of several college admissions or I.Q. tests, converted to deciles of the 1952 A.C.E. Psychological Test, are available for 6 per cent of the total sample.[11] College grade point average (GPA), representing academic performance in college, was reported in the senior-year questionnaire. College quality is measured by Astin's "selectivity," which basically taps an institution's ability to enrol the brighter students it has admitted, and corresponds to the average intellectual ability of its freshman class.[12] The last intellectual variable is one that most studies of occupational attainment have been unable to deal with explicitly—graduate education. Its importance is obvious. A higher degree is essential for full standing in most high-prestige professions and very advantageous in others. The measure is simply the number of years during which a person has been enrolled in a program leading to an advanced degree. It varies from zero to three because follow-ups stopped with the third year after graduation.

Finally, certain of the prestige expectations themselves will be treated as independent variables. Prestige expectations held during the freshman year can be expected to influence undergraduate academic performance, senior expectations, and so on. Senior expectations will influence graduate enrolment and "ultimate" prestige expectations.[13]

Table 1 shows the means, standard deviations, and frequencies of each of the variables used in the analysis. Frequencies

TABLE 1

MEANS AND STANDARD DEVIATIONS OF VARIABLES USED IN ANALYSIS OF MEN'S PRESTIGE EXPECTATIONS

Variables	Mean	S D	N
Parental family income*	96.7	60.8	18,025
Father's education	12.2	3.3	19,256
Prestige of father's occupation	46.2	14.3	18,458
School selectivity	55.5	9.4	19,734
Ability†	5.9	2.6	699
Respondent's grade point average‡	4.9	1.5	19,384
Number of years enrolled	1.2	1.2	19,734
Prestige expected:			
As a freshman	64.9	9.2	17,287
As a senior	66.3	9.8	16,018
Three years after graduation	66.4	11.9	16,011

* In hundreds of dollars

† In deciles.

‡ A+ and A = 9, B+ = 8, C− or lower = 2

for all variables but ability are so large as to make questions of statistical significance academic, but analyses that include ability must be handled rather cautiously.

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[11] This conversion is necessarily rather crude; therefore, deciles, rather than a more detailed measure, were used. The data were collected in 1966 from the registrars of the colleges from which respondents graduated. To keep clerical problems to a minimum and to encourage registrars to respond, the scores were requested for only 10 per cent of the respondents to the first wave of the study. Usable scores were returned for about 60 per cent of this group. Correlations between other variables were computed for those with ability scores and compared with results for all men. Intercorrelations are somewhat higher among men with ability scores, which may mean that correlations of ability with other variables are overestimated. On the other hand, the composite measure is doubtless less reliable than a single one would be.

[12] Alexander W. Astin, *Who Goes Where to College?* (Chicago: Science Research Associates, 1965), p. 55.

[13] Of course, the only "ultimate" aspect of these expectations is their being the last measurements taken. The label is used here simply to cut down on verbiage. As Turner indicates in another connection, it is not legitimate to regard prior states as causes of later states (Ralph H. Turner, "On Neighborhood Context and College Plans [1]," *American Sociological Review*, XXXI [October, 1966], 698–702). Prestige expectation "effects" are here treated as matters of persistence and not causation. Omission of the prior states from the path diagram would have seriously distorted the remaining paths.

METHODS

The analytical techniques required to deal with a problem like this should take account of its sequential nature. We shall start by looking at the influence of SES on freshman expectations, move from there to an analysis of college grades, thence to senior expectations, graduate enrolment, and prestige expectations held three years after college graduation. The appropriate technique is path analysis, as explained by Duncan and by Boudon.[14] The method used here involves successive multiple regressions, with a later computation making an independent variable of the dependent variable in an earlier set. The resulting path diagram concisely summarizes the direct causal connections within a set of variables and provides the data necessary for analysis of indirect connections. The numerical value of a direct path is the same as that of the standardized partial regression weights given by each successive multiple regression.

One of the requirements for a legitimate path analysis is an unequivocal ordering of all but the earliest variables. Here the three parental SES variables and intellectual ability are treated as earliest, and contemporaneous. While a sample of college graduates is hardly appropriate for analyzing the relation between SES and ability, this design does allow us to prevent the effects of ability from being confounded by those of SES. Ability is followed by institutional quality and freshman prestige expectations, both of which were measured in the senior year. Freshman expectations clearly refer to the first year of college, and selectivity is assumed to do so. The extent to which men graduated from colleges different from the ones they originally entered must be viewed as introducing an element of error into this assumption. About 75 per cent did not change colleges at all.

Two further decisions are somewhat arbitrary. The placing of college grade point average prior to senior prestige expectations was done because the question on grades refers to the entire college experience and not just to the senior year. For a similar reason, enrolment in graduate school is treated as prior to the last set of prestige expectations. Enrolment spans the three years following college graduation, while "ultimate" prestige expectations are those held during the third year after graduation. Both decisions are arbitrary in the sense that the men could have changed their prestige expectations at any time in each of the three-year periods. No simple treatment of the data could obviate these problems, and the assumptions presented here seem to be more realistic than any other alternatives.

Table 2 gives the product-moment correlations between all variables. Since the analysis will deal with partial relationships, little comment is required here except to note the correlations between the three SES variables and prestige expectations. These are all rather small, with a maximum of .15 (the correlations of father's occupation with senior prestige expectations and father's education with freshman and senior prestige expectations). The relative contributions of each of the three socioeconomic variables and ability is the first step of the analysis.

RESULTS

As already noted, actual occupational attainment has been found to be only slightly related to parental SES, net of one's own educational attainment. These data give us an opportunity to extend this generalization on two counts—timing and planning. Is the relation between parental characteristics and respondent's *expectations* also weak? And is it weak as early as the freshman year?[15] As Table 3 shows, socioeco-

[14] Duncan, "Path Analysis"; Raymond Boudon, "A Method of Linear Causal Analysis: Dependence Analysis," *American Sociological Review*, XXX (June, 1965), 365–74. Duncan's article discusses the limitations and assumptions of path analysis and gives reference to earlier non-sociological literature.

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little of ability's impact (.224 — .195 = .029, or 13 per cent) is due to its association with parental SES.[16] This analysis can be viewed as an assessment of the direct effects of ability and SES on occupational expectations, net of educational attainment. It shows that ability is the only one of the four variables that is at all important in determining freshman prestige expectations. This finding does not, of course, deny the

[16] The indirect effects of a variable are given by the difference between its zero-order correlation with the dependent variable (here .224) and the value of its direct path (β weight, .195) to the dependent variable (Duncan, "Path Analysis," p. 7).

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CORRELATIONS BETWEEN VARIABLES USED IN ANALYSIS OF MEN'S PRESTIGE EXPECTATIONS

Variables	Ability	Father's Occupation	Father's Education	Family Income	School Selectivity	Grade Point Average	Freshman Prestige	Senior Prestige	Number of Years Enrolled	Prestige Three Years after Graduation
Ability		225	262	183	312	342	224	222	234	.259
Father's occupation	655		612	.428	242	032	139	.146	142	131
Father's education	686	18,126		.443	296	041	147	.153	.161	130
Family income	636	16 995	17,935		332	– 029	000	125	095	064
School selectivity	699	18,548	19,256	18,025		025	167	180	150	.145
Grade point average	688	18,226	18,911	17,703	19,384		121	262	307	245
Freshman prestige	611	16,271	16,872	15 821	17,287	16,922		485	309	332
Senior prestige	557	15,141	15,619	14,620	16,018	15,752	14,390	.	455	561
Number of years enrolled	699	18,548	19,256	18,025	19,734	19,384	17,287	16,018		500
Prestige three years after graduation	546	15,116	15,622	14,627	16,011	15,755	14,121	14,146	16,011	.

NOTE.—Pearson r above diagonal and N's for each pair of correlations below diagonal.

Ability is the primary determinant (of the ones in this set) of freshman aspirations, but the entire set explains relatively little of the variance (6 per cent). Only a

graduated from college. Second, the data on freshman career choices are retrospective, collected during the senior year. An artificial consistency between present and past career choices could mask the effects of the college experience on changes in expectations and could weaken the actual relation between parental characteristics and freshman expectations.

TABLE 3

β WEIGHTS FOR MULTIPLE REGRESSION OF FRESHMAN PRESTIGE EXPECTATIONS ON ABILITY, FATHER'S OCCUPATIONAL PRESTIGE, FATHER'S EDUCATION, AND PARENTAL FAMILY INCOME

Variables	β Weights
Ability	195
Father's prestige	057
Father's education	059
Family income	004

NOTE.—$R = 246$ $R^2 = 061$

occupational attainment. Too many of the men expecting to be in high-prestige occupations were still in graduate or professional school in their third year after graduation.

Many of the recent studies of occupational attainment have used occupational prestige as a dependent variable, commonly measured by Duncan's estimates of 1948 NORC scores.[8] This report will use a measure developed in NORC's most recent study of occupational prestige. Respondents were asked to place each of over two hundred occupations into one of nine ordered groups. Occupations were scored on the basis of this ranking. Since most of the occupations asked about could be matched with detailed census categories, a person can be assigned an occupational prestige score based on his occupation coded into detailed census categories. The college graduate study did not have information available in this form, however. Instead, data were available for each of three stages on the field (generally corresponding to an academic discipline or a major profession) that a person intended to work in and—for the last two periods—the kind of employer he expected to work for. These two pieces of information yielded an approximation to census categories for about 90 per cent of the respondents. These were then given NORC scores by a computer program written at NORC.

The list of disciplines included such academic fields as chemistry, physics, botany, zoölogy, English, history, sociology, economics, and political science; various engineering specialties; medicine, dentistry, and other health fields; law; various specialties in business; and education. The question on the prospective employer distinguished among colleges and universities; school systems; private corporations; federal, state, and local governments; and self-employment. Men in "academic" disciplines were separated into three census groups according to their expected employers. Those anticipating careers in science, for example, were classified as professors if they mentioned university employment, schoolteachers if they mentioned a school system, and "scientists, n.e.c." (not elsewhere classified) if they mentioned another kind of employer. Professions such as law, medicine, dentistry, and engineering were assigned to the corresponding census categories. Respondents in education were classified as "teachers" except for the small minority who said that they anticipated academic employment; these were called "professors." Men who chose business careers were assigned to the category, "proprietors, managers, and officials, n.e.c.," unless they anticipated academic employment. The prestige of proprietors, managers, and officials is not high, especially compared with that of other occupations chosen by college graduates, and this classification is probably the most suspect of those made. A census category for business executives would probably have allowed for a more realistic classification of responses.[9]

The prestige scores are the key dependent variables in this paper. The independent variables can be divided into three groups: (1) socioeconomic variables—parental income, education, and occupation; (2) intellectual variables—ability, academic performance, and the intellectual caliber of a person's college; and (3) the prestige expectations themselves. Three separate measures of parental SES have been included—the father's occupation, coded from open-ended responses into census categories and translated into NORC scores; father's educational attainment, asked in traditional survey terms (no high school, some high school, high school graduate, etc.) and translated into years of

[8] Otis Dudley Duncan, "A Socioeconomic Index for All Occupations," in Albert J. Reiss, Jr., *Occupations and Social Status* (New York: Free Press, 1961), pp. 109–38.

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Variables	β Weights
Ability	195
Father's prestige	057
Father's education	059
Family income	004

NOTE.—R = 246, R^2 = 061

potent indirect effects of SES, which cannot be assessed with these data.[17]

Since parental SES has unimportant direct effects among college graduates, it is possible to present the reminder of this analysis in one diagram. Figure 1 shows a path analysis giving the results of four separate multiple regressions for four dependent variables—grade point average in college, senior prestige expectations, number of years enrolled in graduate school, and "ultimate" prestige expectations (held three years after graduation). Each of the four dependent variables is treated as dependent on all variables to its left. Not all path coefficients are shown in the diagram, but all are reported in Table 4.

The analysis starts by looking at the relation between grades and ability, selectivity, and freshman expectations. The double-headed arrows (see Fig. 1) linking the last three variables show the zero-order correlations between the three and indicate that they are not temporally ordered in this model. Grade point average (GPA) is treated as dependent because of work done on this sample by James A. Davis, indicating that the low correlation between selectivity and grades (.02) meant that bright students graduating from good schools would receive poorer grades than those graduating from mediocre schools. The path coefficient of —.1 indicates the rather limited extent to which this is true.[18] The path of .36 be-

TABLE 4

PATH COEFFICIENTS FOR ANALYSIS OF GRADES, ENROLMENT, SENIOR, AND ULTIMATE PRESTIGE EXPECTATIONS

Independent Variables	Dependent Variables			
	Grade Point Average	Senior Prestige	Number of Years Enrolled	Prestige Three Years after Graduation
Ability.... ..	359	.027	057	.093
School selectivity...	− 096	.093	.050	− 003
Freshman prestige	.057	440	103	032
Grade point average		197	186	020
Senior prestige . . .			335	.391
Number of years enrolled .	..	..		285
R	357	536	512	633
R^2 ..	127	.288	.262	.401

[17] The actual role of college entrance and graduation in occupational achievement exceeds the scope of a study of college graduates. Many of the variables one would like to investigate would require a different longitudinal design—one that followed the occupational choices of high school students or at least one that could take the college dropout into account. But even with these data, it is possible to discuss an effect of delayed college graduation as measured by the person's age when he was a senior. The simple correlation between age and senior prestige expectations is — 15, and between age and ultimate expectations, — 13. The direct effect of age on ultimate expectations is negligible. There are two major indirect effects, one related to the association between senior expectations and age, and the other to a tendency for older graduates to avoid advanced education.

[18] The statistical significance of this result is somewhat hard to evaluate. Because of the crucial role of ability in this interpretation, its N has been used as the basis for computing the standard error of this β weight. Under these circumstances, the ratio of coefficient to error is 2.4:1, an equivocal result in light of the sample's clustering and multistage character.

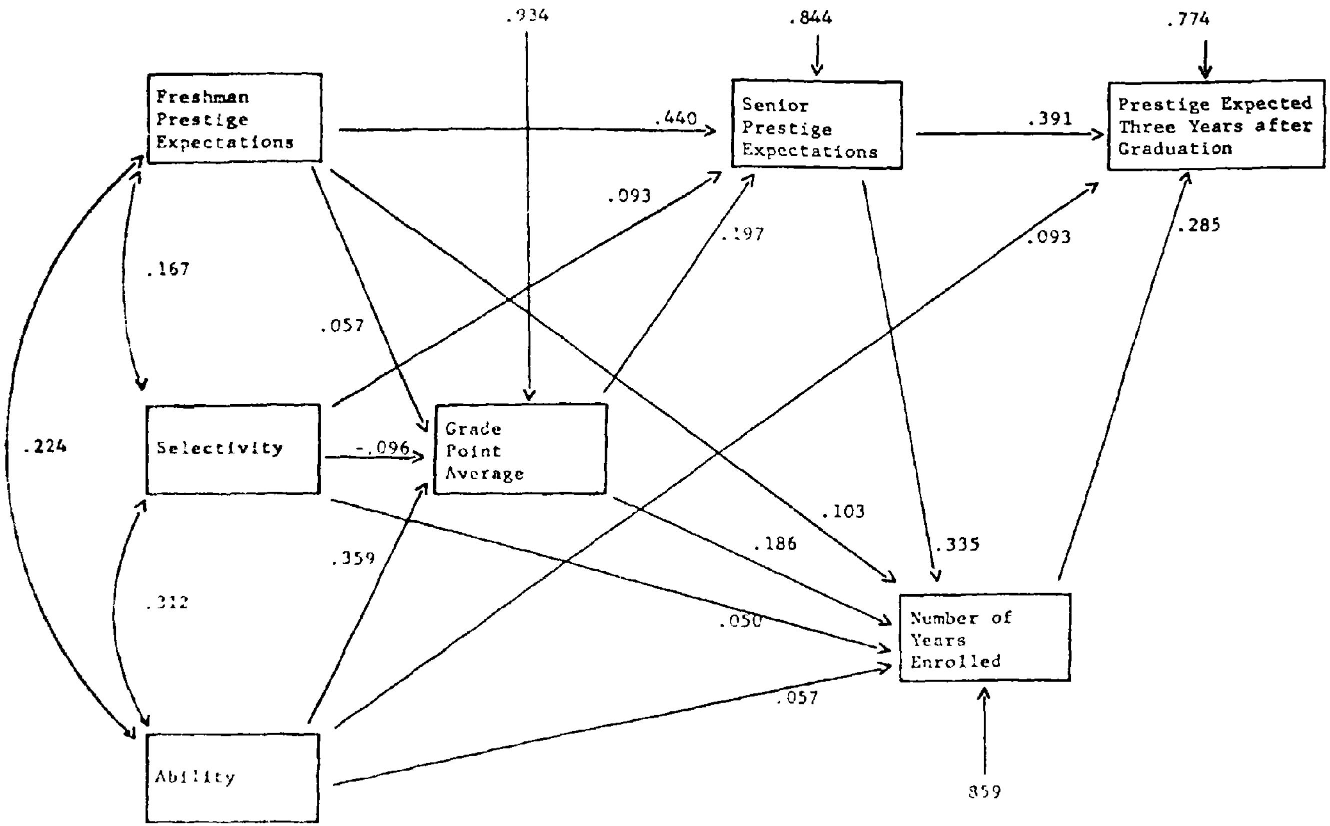


FIG 1.—Path diagram relating men's occupational prestige expectations to prior intellectual and prestige variables

tween ability and GPA simply reports the expectable finding that bright people get better grades. The impact of freshman prestige is slight, about half of the small original relation between freshman expectations and GPA being attributable to selectivity or ability.

The two major variables influencing senior expectations are freshman expectations, with a direct path of .44, and GPA, with a direct path of .20. The first represents simple persistence. Seniors were likely to expect careers of about the same prestige as those they had expected when they were freshmen, but the zero-order correlation of .48 does not preclude a fair amount of change during college. The difference of .04 between the correlation and the direct path indicates that little of the persistence effect can be explained by ability or academic performance. College is a time of considerable exploration with regard to one's occupational interests, and this dimension of occupational choice is not well tapped in this analysis.

The relations between academic performance and prestige are somewhat more interesting. College grades make the most important direct contribution (.2), and only a quarter of their impact [(.262 — .197)/.262] is spuriously brought about by the three antecedent variables. (A variable's direct effects are given by its path coefficient and its indirect effects by the difference between its zero-order correlation with the dependent variable and the path coefficient.) Very little of the effect of ability is direct (.03); one of two important indirect paths leads from ability to grades to senior expectations, making a contribution of .07 (.359 • .197). In other words, about a third of the effect of ability (.07/.22) comes about because bright people get better grades, and these lead them to aspire to higher careers. Nearly half of the impact of ability comes about because brighter men chose more intellectually demanding careers as freshmen. Even though Figure 1 treats the three initial variables equally, these two indirect paths should be interpreted, not as indicating a spuriously high ability effect, but instead as specifying by what mechanism the ability effect is felt.

The coefficient of .09 for selectivity is probably significant, since it is nearly the same as the value (.1) found in an analysis that omitted ability and could then rely totally on the study's rather substantial N. If so, graduating from a better school shows a slight tendency to be associated with higher prestige aspirations, despite the grading disadvantage suffered by men in the best colleges.

Nonetheless, is is clear that academic *performance* is the chief intellectual influence on senior prestige expectations. In part, this may reflect the operation of a motivational factor that brings about a more or less diligent application of one's ability; in part, it may represent the operation of grades as the kind of feedback device postulated by Davis.[19] That is, one's self-conception as an intelligent person may be enhanced by good grades and eroded by bad ones. In any case, the fact that students react to their grades by altering their prestige expectations shows that American higher education tends to operate as a kind of universalistic screening system, raising the occupational aspirations of the better performers and lowering the aspirations of the poorer performers, when aspirations change at all.

That the decision to go on to graduate school is influenced by most of the variables already treated here has been demonstrated by earlier reports of this study.[20] Career preparation and academic performance are among the strongest predictors of plans for graduate study and of actual enrolment. Of the other two important variables, sex is controlled by elimination, and religion is ignored. (Jews are more likely to go to graduate school than Gentiles.) The present

[19] James A. Davis, "The Campus as a Frog Pond: An Application of the Theory of Relative Deprivation to Career Decisions of College Men," *American Journal of Sociology*, LXXII (July, 1966), 17–31.

[20] Davis, *Great Aspirations*.

analysis gives a somewhat more detailed account of the precise role played by career preparation and academic performance. For men, at least, the major direct determinants of enrolment are senior prestige expectations, college grades, and freshman prestige expectations. Most of the effects of senior prestige expectations (.335/.455, 74 per cent) are direct; they are not spuriously produced by the antecedents of senior prestige. The men whose senior careers most demand advanced education are most likely to undertake it. In comparison, the direct effect of grades, though marked, is quite a bit weaker. More surprising, perhaps, is the small but significant direct path from freshman expectations. There seems to be a slight tendency for freshmen who expected prestigious careers to undertake advanced training with lowered career expectations or for those with initially low expectations to eschew further education even though their new careers might warrant it. The low coefficients for ability and selectivity remind us that their effects are indirect by the time of college graduation.

This is probably the most relevant point at which to discuss Davis' hypothesis regarding the disadvantages of high-quality schools' grading procedures for the abler students. The appropriate test of his hypothesis is the following: If able students in better colleges are deterred by low grades, the paths linking graduate school attendance—for example, with grades and ability—should be of at least moderate size. The measure of this effect is the product of the paths linking enrolment to grades and grades to ability, in a diagram omitting senior prestige expectations. The value of this compound path is — .02; the relationship is in the right direction but hardly sizable. Davis was backing a bad horse here The product of two decimal numbers will be quite small unless both are rather large. Neither path is particularly large in this case.

The last part of the diagram, which deals with "ultimate" expectations, omits all direct paths with values less than .05. The major determinants of "ultimate" expectations are senior expectations and graduate enrolment.

Interpretation of these two coefficients is quite straightforward. The .39 for the senior-to-"ultimate" expectations path means of the remainder a spurious function of the senior effect is direct, with the other three-tenths coming about mostly because men undertook advanced training appropriate to their senior career plans. Nearly three-fifths of enrolment's effects are direct, with most of the remainder a spurious function of the connection between senior expectations and enrolment. Since the major determinants of "ultimate" prestige expectations are senior expectations and graduate enrolment, one accounts for most of the indirect effects of the other. Since the senior expectations precede graduate enrolment, the latter partially interprets the effects of the former, whereas the former makes spurious part of the latter's effects. Briefly, one could say that men with high career expectations lowered them if they were unable to take additional training, and men with lower aspirations raised them on exposure to graduate school. (An example of the latter would be a scientist originally planning to work for industry but deciding in graduate school to become a college professor.)

The ability effect approaches statistical significance, with a ratio of coefficient to error of 2.4:1, but the nature of the sample precludes a definite determination. If these findings were in complete agreement with those on actual prestige achievement, we would expect the impact of ability to be negligible. Taken at face value, it is hardly a major direct determinant of "ultimate" prestige expectations.

Figure 1 is important partly for the negative results it contains—the small size of direct paths from "very early" variables, and the negligible direct effect of school quality. In fact, the college quality findings are of considerable interest. It seems natural to assume that graduates of better colleges would expect, and get, better jobs. But occupational prestige may not be an

appropriate measure of how "good" a job is. As students of the professions know, professions are internally differentiated along a dimension that could be called "intraoccupational prestige." In medicine, a specialty practice and an affiliation with a respected hospital receive much higher prestige than general practice or less prestigious hospital affiliations. A similar case could be made regarding law or academia. The allocation of personnel in the major professions can be partly described by a flow from the better colleges to the better graduate or professional schools and from there to jobs with high intraoccupational prestige.[21] Data from this study document the first step and show that graduation from a good college is of great advantage in admission to a good graduate school, controlling for college grades and ability. It is also true that parental SES is more strongly related to college and graduate-school quality than to prestige expectations. Parental characteristics may then have discernible effects on intraoccupational success, net of college graduation.[22] Empirical support for such a hypothesis requires a different dependent variable than popular regard for occupations viewed as units.

In summary, intellectual and academic performance play an important though not dominant part in explaining changes in the occupational prestige expectations of college graduates. A major aspect of the process is persistence in career goals. The NORC data allow us to trace this persistence back to the freshman year in college. Presumably, it dates from an even earlier period in the life cycle. In any case, higher educational institutions seem to channel occupational goals in the direction of a greater match between talent and aspiration. In other words, they operate to promote intergenerational occupational mobility, at least among the men they admit.

National Opinion Research Center

[21] Erwin O. Smigel, "The Impact of Recruitment on the Organization of the Large Law Firm," *American Sociological Review*, XXV (February, 1960), 55–66; Seymour Warkov and Joseph Zelan, *Lawyers in the Making* (Chicago: Aldine Publishing Co., 1965), pp. 53–64; Oswald Hall, "The Informal Organization of Medical Practice in an American City" (unpublished Ph. D. dissertation, University of Chicago, 1944); David N. Solomon, "Career Contingencies of Chicago Physicians" (unpublished Ph. D. dissertation, University of Chicago, 1952); Theodore Caplow and Reece J. McGee, *The Academic Marketplace* (New York: Basic Books, 1958); Bernard Berelson, *Graduate Education in the United States* (New York: McGraw-Hill Book Co., 1960); Lowell L. Hargens and Warren O. Hagstrom, "Sponsored and Contest Mobility of American Academic Scientists," *Sociology of Education*, XL (Winter, 1967), 24–38.

[22] Joe L. Spaeth, "The Allocation of College Graduates to Graduate and Professional Schools" (unpublished manuscript, NORC, December, 1967).

Social Class, Parental Encouragement, and Educational Aspirations[1]

William H. Sewell and Vimal P. Shah

ABSTRACT

In this study of a randomly selected cohort of 10,318 Wisconsin high school seniors, correlational, path, and cross-tabular analyses show that socioeconomic status, intelligence, and parental encouragement all have substantial independent relationships to college plans of males as well as of females and that neither intelligence nor parental encouragement—individually or jointly—can completely account for social class differences in college plans It substantiates, however, the claim made by other investigators using less rigorous methods and less representative samples that parental encouragement is a powerful intervening variable between socioeconomic class background and intelligence of the child and his educational aspirations. Parental encouragement appears to have its strongest effect on the college plans of males and females who score relatively high on intelligence and come from families occupying relatively high socioeconomic positions. Also, ability continues to accentuate the social class differences in aspirations of both males and females regardless of parental encouragement.

INTRODUCTION

It is a sociological truism, evidenced by a number of studies, that children of higher social class origins are more likely to aspire to high educational and occupational goals than are children of lower social class origins.[2] This is true despite wide differences among the studies in the nature of their samples, the age level of their subjects, their measurement procedures, and the particular cutting points used to categorize the variables.[3] Even when other variables

[1] Paper presented at the 62d annual meeting of the American Sociological Association, San Francisco, August, 1967. The research reported in this paper was financed by a grant from the National Institutes of Health, U.S. Public Health Service (M-6275). The writers acknowledge the services of the University of Wisconsin Computing Center and wish to thank Otis Dudley Duncan and Warren Hagstrom for their helpful comments on an earlier draft of this paper.

[2] There is a vast literature in this regard References to these studies are given in: William H. Sewell, Archibald O. Haller, and Murray A. Straus, "Social Status and Educational and Occupational Aspiration," *American Sociological Review*, XXII (February, 1957), 67-73; William H Sewell, "Community of Residence and College Plans," *American Sociological Review*, XXIX (February, 1964), 24-38; William H. Sewell and Alan M. Orenstein, "Community of Residence and Occupational Choice," *American Journal of Sociology*, LXX (March, 1965), 551-63; William H. Sewell and Archibald O. Haller, "Educational and Occupational Perspectives of Farm and Rural Youth," in Lee G Burchinal (ed), *Rural Youth in Crisis* (U.S. Department of Health, Education, and Welfare) (Washington, D C: Government Printing Office, 1965), pp 149-69; William H. Sewell and J Michael Armer, "Neighborhood Context and College Plans," *American Sociological Review*, XXXI (April, 1966), 159-68; and William H Sewell and Vimal P Shah, "Socioeconomic Status, Intelligence, and the Attainment of Higher Education," *Sociology of Education*, XL (Winter, 1967), 1-23.

[3] Interesting evidence is provided by Haller and Miller, who attempted to test the hypothesis of a positive correlation between the level of occupational aspiration and social class status, race, parents' willingness to contribute financial support to help the youth, and posteducational work experience They examined data from several published and unpublished studies. The hypothesis was confirmed in twenty-three instances, and the authors were somewhat doubtful about the validity of all of the remaining instances classified by them as contrary to the hypothesis Archibald O Haller and Irwin W Miller, *The Occupational Aspiration Scale. Theory, Structure and Correlates* (East Lansing: Michigan State University Agricultural Experiment Station, 1963), pp. 28-55.

known to be related to both social class origins and aspirations—such as sex, intelligence, high school achievement, value orientations, and contextual variables such as neighborhood and community of residence—have been controlled, social class origins have been found to have an independent influence on educational and occupational aspirations. The question is often raised as to what it is about social class that accounts for this relationship and through what intervening variables this relationship may be further explained. In other words, the need is emphasized for specifying the variables by which the social class characteristics of individuals are translated into differences in aspiration and subsequently into achievement.[4] One factor which has come in for considerable emphasis is the degree to which the child perceives his parents as encouraging or even pressuring him to have high educational and occupational goals.

Kahl first suggested the importance of parental encouragement in his study of the educational and occupational aspirations of "common-man" boys. After finding that intelligence and social class position accounted for the major variations in college aspirations of boys of common-man or working-class origins, he noted that the attitude of the parents regarding the importance of occupational success for personal happiness was the critical factor.[5]

Kahl's findings, although based on a very small sample of twenty-four common-man boys, have led many social scientists to emphasize the importance of parental encouragement and other social-psychological variables in explaining the relation of social stratification to aspirations. For example, in a critique of social structure and American education, Gross observes the following:

> It is frequently assumed that because children come from backgrounds, similar on such criteria as education, occupation, and religion of parents that these children experience similar influences. However, as Kahl's paper suggests, in a setting of highly similar social status dimensions, quite disparate sociological and psychological influence, in this case parental pressure, may be operative on the child. This suggests that to type children simply on the basis of the characteristics of their socioeconomic environment or "social class" may provide an extremely inaccurate picture of the crucial influences affecting them. Social class typing of children, in short, may obscure more than it may reveal regarding influences operative on children.[6]

Bordua, in a study of 1,529 ninth through twelfth graders in two cities of Massachusetts, found that socioeconomic status was related positively to college plans at all school-year levels in both sexes and in Catholic, Protestant, and Jewish reli-

[4] For example, Peter Rossi, in "Social Factors in Academic Achievement," in E. H. Halsey, Jean Floud, and C. Arnold Anderson (eds.), *Education, Economy and Society* (Glencoe, Ill.: Free Press, 1961), p. 269, in surveying the researches on social factors affecting the achievement of students in American elementary and high schools, observed that "it is characteristic of past researches on individual differences that they have not gone much beyond measuring the association between characteristics of individual students and their achievement scores, to specify the processes by which these characteristics are translated into differences in achievement."

[5] Kahl selected twenty-four subjects for his study from a larger sample of 3,971 boys in public high schools in eight towns of the Boston metropolitan area. These twenty-four boys had intelligence scores in the top three deciles of their schools and therefore were considered intelligent enough to succeed in college. While most upper-status boys aimed toward college as a matter of course, most lower-status boys tended to be uninterested in college Consequently, working-class boys who aimed high were exceptions, and Kahl's intensive study of this group was designed to discover the source of their higher aspirations (see Joseph A. Kahl, "Educational and Occupational Aspirations of 'Common-Man' Boys," *Harvard Educational Review*, XXIII (Summer, 1953), 186–203.

[6] Neal Gross, "A Critique of Social Class Structure and American Education," *Harvard Educational Review*, XXIII (Fall, 1953), 298–329.

gious affiliations.[7] Since parental stress on college was positively and linearly related to college plans when sex and school year were controlled, Bordua asked whether these relationships were due to differential stress on college by the parents of boys as opposed to girls, to high socioeconomic status levels as opposed to low, and to Jews as opposed to Protestants and Catholics. He, therefore, controlled for parental stress on college and found that the effects of religious affiliation and socioeconomic status on college aspirations were reduced but not eliminated. Also, parental stress on college was related about equally to college plans whether or not socioeconomic status was controlled. However, Bordua's findings should be viewed with certain reservations because he did not control for all variables simultaneously, and particularly because he did not control for intelligence which has been found consistently related to both socioeconomic status and college plans. Similar limitations of methodology and data are characteristic also of Simpson's study of 743 boys in white high schools in two southern cities, in which it was concluded that "parental advice is a much better predictor of high ambition than is the boy's social class."[8]

In a study of 2,852 male sophomores in secondary schools in six middle-sized Pennsylvania cities, Rehberg and Westby found that the father's education and occupation influence educational expectancy both through parental encouragement and independent of it. Further, they found that the larger the family the greater the reduction not only in the frequency with which the parents encourage their children to continue their education beyond high school but also in the effectiveness of any given frequency level of parental educational encouragement.[9] Although family size was used as an additional control variable in their study, in the absence of data on intelligence Rehberg and Westby were unable to partial out the influence of ability on either parental encouragement or educational expectancy of the students. Further, they may have overstated the influence of parental encouragement in their top social status category when they suggested that "parental encouragement comes to being a *necessary* condition for the continuation of education beyond the high school level in *all* strata and not just in the lower classes."[10]

A critical review of these and other studies of the influence of parents' attitudes on youths' aspirations indicates not only major limitations of past studies but also the need for a clear formulation of a series of research questions. The purpose of this paper is to determine: (1) whether or not observed social class differences in the college plans of youth can be explained in terms of the differences in the level of perceived parental encouragement when intelligence is taken into account; (2) and if not, what additional influence parental encouragement has on college plans over and above the influence of social class and intelligence; (3) the direct and indirect influences that social class, intelligence, and parental encouragement have on college plans; (4) and, finally, whether or not there are any subpopulations of sex, intelligence, and parental encouragement in which social class differences in college plans might be eliminated.

THE DATA

The data for the present study come from a survey of graduating seniors in all

[7] David J. Bordua, "Educational Aspirations and Parental Stress on College," *Social Forces*, XXXVIII (March, 1960), 262-69.

[8] Richard L. Simpson, "Parental Influence, Anticipatory Socialization, and Social Mobility," *American Sociological Review*, XXVII (August, 1962), 517-22.

[9] Richard A. Rehberg and David L. Westby, "Parental Encouragement, Occupation, Education and Family Size: Artifactual or Independent Determinants of Adolescent Educational Expectations?" *Social Forces*, XLV (March, 1967), 362-74.

[10] *Ibid.*, p. 371.

public, private, and parochial schools in Wisconsin.[11] Information was obtained from the respondents, school authorities, and a statewide testing program on a number of matters, including the student's educational and occupational plans, the student's percentile rank in measured intelligence, the socioeconomic status of his family, his rank in his high school class, his course of study, and the educational attitudes of the student and his family. The analysis reported in this paper is based on 10,318 seniors who constituted about a one-third random sample of all 1957 seniors in Wisconsin.

The variable *socioeconomic status* (X_1) of the student's family is based on a weighted combination of father's occupation, father's formal educational level, mother's formal educational level, an estimate of the funds the family could provide if the student were to attend college, the degree of sacrifice this would entail for the family, and the approximate wealth and income status of the student's family. The sample was divided into four roughly equal groups, labeled "High," "Upper Middle," "Lower Middle," and "Low" in socioeconomic status.[12]

The variable *intelligence* (X_2) is based on scores on the Henmon-Nelson Test of Mental Ability, which is administered annually to all high school juniors in Wisconsin.[13] The categories used represent the division of the sample into approximately equal fourths in measured intelligence, according to established statewide norms, labeled "High," "Upper Middle," "Lower Middle," and "Low" in intelligence.

The variable *paternal encouragement* (X_3) is based on the student's response to four statements intended to record his perception of his parents' attitude toward his college plans. The students were asked to check *any one* of the following four statements: (1) My parents want me to go to college; (2) My parents do not want me to go; (3) My parents do not care whether I go; and (4) My parents will not let me go. For the purposes of this study, the students responding to the first statement are considered to have perceived positive parental encouragement to plan on college, while the students responding to the other three statements are considered not to have perceived positive parental encouragement to plan on college. The variable is dichotomized accordingly into high and low parental encouragement categories.

The variable *college plans* (X_4) is based on a statement by the student that he definitely plans to enrol in a degree-granting college or university (or one whose credits are acceptable for advanced standing by the University of Wisconsin). That these statements reflect realistic rather than vague hopes is supported by the fact that 87.3 per cent of the boys and 86.7 per cent of the girls who had stated that they

[11] The over-all results of this survey are given in J. Kenneth Little, *A Statewide Inquiry into Decisions of Youth about Education beyond High School* (Madison: School of Education, University of Wisconsin, 1958).

[12] These six indicators of family socioeconomic status were factor analyzed using the principal-components method and were orthogonally rotated according to the verimax criterion. This produced a three-factor structure composed of a factor on which the three economic items were most heavily loaded, a factor on which the two educational items were most heavily loaded, and a factor on which the occupational item was most heavily loaded. The composite socioeconomic status index was developed by squaring the loadings of the principal items on each factor as weights, then multiplying students' scores on the items by the respective weights, and, finally, summing the weighted scores of the principal items on each factor. The three factors were combined into a composite socioeconomic status score after multiplying the scores of all students by certain constants which would produce approximately equal variances for each status dimension. The resulting sum of the weighted scores was then multiplied by a constant to produce a theoretical range of scores between 0 and 99.

[13] V. A. C. Henmon and M. J. Nelson, *The Henmon-Nelson Test of Mental Ability* (Boston: Houghton Mifflin Co., 1942).

planned on college actually attended college.[14]

STATISTICAL PROCEDURE

The principal purpose of this paper is to examine the relationship between socioeconomic status and college plans. The strategy followed is to partial out the influence of intelligence and parental encouragement prior to determining the relationship between socioeconomic status and college plans. Also, separate analysis is made for males and females because of known differences in their propensity to pursue higher education as well as likely differences in the influence of socioeconomic status, intelligence, and parental encouragement on their college plans. Various statistical techniques are used to achieve the purpose of this study.

First, the gross relationships of socioeconomic status, intelligence, and parental encouragement to college plans and to one another are determined from their zero-order correlation coefficients. Second, the relationship of socioeconomic status to college plans, controlling for intelligence and parental encouragement, is determined by means of first- and second-order partial correlation coefficients. Third, the additional contribution of parental encouragement in predicting college plans, over and above the contribution of socioeconomic status and intelligence, is determined by means of stepwise multiple correlation coefficients. Fourth, the relative direct and indirect effects of socioeconomic status, intelligence, and parental encouragement on college plans are determined by using the method of path analysis.[15] And fifth, a multivariate cross-tabular analysis of the data is made to demarcate the differential influence of socioeconomic status on the college plans of various subgroups which differ by sex, intelligence, and degree of parental encouragement. The statistical significance of the relationships examined throughout the analysis is determined by appropriate tests using the .05 probability level.

RESULTS

The gross relationships of socioeconomic status, intelligence, and parental encouragement to college plans can be examined from the zero-order correlations given in the intercorrelation matrix of Table 1. The zero-order correlation coefficients of socioeconomic status, intelligence, and parental encouragement with college plans are all positive and statistically significant for males as well as for females. For males, socioeconomic status and intelligence each explains about 18 per cent of the variance in college plans. For females, socioeconomic status explains 22.9 per cent of the variance in college plans while intelligence explains only 12.6 per cent. Parental encouragement explains about one-fourth of the variance in the college plans of boys and about one-third of the variance in the college plans of girls. Thus, the zero-order correlation coefficients indicate that the relationship of parental encouragement to college plans is stronger than that of either socioeconomic status or intelligence to college plans and that the relationship of parental encouragement to college plans is stronger for females than for males. Socioeconomic status and intelligence have an equally strong relationship to the college plans of males, but socio-

[14] A follow-up survey was conducted by means of mailed questionnaires and telephone interviews, and responses were obtained from 9,007, or 87.2 per cent, of the students in the original one-third sample. For further information on the follow-up, see Sewell and Shah, *op. cit.* (see n. 2 above), pp. 6-7.

[15] Path analysis provides a convenient and efficient method for determining the direct and indirect effects of each of the independent variables in a causal chain composed of standardized variables in a closed system. These effects are expressed in path coefficients which are the β weights of all of the preceding independent variables on the successive dependent variables in the system. For a brief summary of the method of path analysis, see Otis Dudley Duncan, "Path Analysis: Sociological Examples," *American Journal of Sociology*, LXXII (July, 1966), 1-16.

economic status has a considerably stronger relationship to the college plans of females than does intelligence.

The stronger relationships of socioeconomic status and parental encouragement to the college plans of females than to those of males seem to reflect the differential pattern of role expectations from adult males and females in our society. College education is considered as desirable and increasingly necessary for fulfilling male occupational roles, but for females the situation is doubtless complicated by marital roles and economic considerations. Presumably, therefore, the family resources exert stronger influence on the college plans of females than on those of males, while ability exerts stronger influence on the college plans of males than on those of females.

Although the examination of various factors determining different levels of parental encouragement is outside the scope of this paper, the socioeconomic status of the family and the ability level of the children seem to be two of the most pertinent factors. Consequently, the relationship of parental encouragement to socioeconomic status and intelligence is examined.

Judging from the zero-order correlation coefficients, for both males and females socioeconomic status indicates a stronger relationship with parental encouragement than does intelligence. Socioeconomic status explains about one-sixth of the variance in perceived parental encouragement for males and about one-fifth of the variance in perceived parental encouragement for females. But, intelligence explains about one-eighth of the variance in perceived parental encouragement for males and only about one-twelfth of the variance for females. Thus, as in the case of college plans, socioeconomic status is more strongly related to perceived parental encouragement for females than for males, but intelligence is more strongly related to perceived parental encouragement for males than for females.

An examination of the intercorrelation between socioeconomic status, intelligence, and parental encouragement indicates that these variables are related not only to college plans but also to each other and that their relationships are different for males and females. Consequently, intelligence and parental encouragement should be controlled while the relationship of socioeconomic status to college plans is examined.

TABLE 1

INTERCORRELATION MATRIX

Variable	X_1	X_2	X_3	X_4
Males:				
X_1 (socioeconomic status)		30	.40	43
X_2 (measured intelligence)			.35	42
X_3 (perceived parental encouragement)	..		....	.51
X_4 (college plans)	.	.	.	...
Females:				
X_1 (socioeconomic status)	..	32	.44	.48
X_2 (measured intelligence)		.	29	36
X_3 (perceived parental encouragement)	.			.57
X_4 (college plans)	.	.	..	....

From the first-order partial correlation coefficients of socioeconomic status to college plans (Table 2), it is clear that when either intelligence or parental encouragement is controlled, the relationship between socioeconomic status and college plans of both males and females is reduced but not eliminated. When controlled for intelligence, socioeconomic status explains 12.0 per cent of the variance in the college plans of males, but it explains 17.0 per cent of the

variance in the college plans of females. Similarly, when controlled for parental encouragement, socioeconomic status explains 8.0 per cent of the variance in the college plans of males, but it explains 9.4 per cent of the variance in the college plans of females. It should be noted that controlling for parental encouragement makes a greater reduction in the relationship of socioeconomic status to college plans than the reduction made in the relationship when intelligence is controlled. In either case, however, the relationship continues to be substantial and statistically significant. Also, the stronger relationship of socioeconomic status to the college plans of females than to those of males is evident when either intelligence or parental encouragement is controlled.

When intelligence and parental encouragement are both controlled in the second-order partial correlation coefficients (Table 2), the relationship of socioeconomic status to college plans is further reduced, but socioeconomic status still explains 5.8 per cent of the variance in the college plans of males and 7.2 per cent of the variance in the college plans of females. Thus, even after partialing out the effects of intelligence and parental encouragement, the relationship of socioeconomic status to college plans continues to be substantial and statistically significant.

The zero-order and partial correlation coefficients indicate that there is a positive and statistically significant relationship between socioeconomic status and the college plans of both males and females, with or without controls for intelligence and parental encouragement, which are themselves related to each other and to both socioeconomic status and college plans. The analysis thus far demonstrates the independent relationship of socioeconomic status to college plans. The strength of parental encouragement for predicting college plans over and above the strength of socioeconomic status and intelligence will be determined by examining the multiple correlation coefficients.

The multiple correlation coefficient of socioeconomic status and intelligence to college plans is the same for both males and females ($R = .524$—Table 3); together they explain a little over one-fourth of the variance in college plans. This suggests that although socioeconomic status has a stronger relationship to the college plans of girls than of boys, and although intelligence has a stronger relationship to the college plans of boys than of girls, their combined strength is the same for both sexes.

From Table 3, in addition to the variance explained by socioeconomic status, intelligence explains 9.3 (27.5 − 18.2) per cent of the variance in the college plans of males

TABLE 2

FIRST-ORDER AND SECOND ORDER PARTIAL CORRELATION COEFFICIENTS OF SOCIOECONOMIC STATUS WITH COLLEGE PLANS, SEPARATELY FOR MALES AND FEMALES

Independent Variable	Dependent Variable	Control Variable(s)	Males		Females	
			Partial r	Variance Explained (%)	Partial r	Variance Explained (%)
Socioeconomic status .	College plans	Intelligence	346	12 0	412	17 0
Socioeconomic status	College plans	Perceived parental encouragement	283	8 0	307	9 4
Socioeconomic status	College plans	Intelligence and perceived parental encouragement	240	5 8	268	7.2

and 4.6 (27.5 — 22.9) per cent of the variance in the college plans of females, but parental encouragement explains 14.0 (32.2 — 18.2) per cent of the variance in the college plans of males and 15.5 (38.4 — 22.9) per cent of the variance in the college plans of females over and above that explained by socioeconomic status. Thus, both intelligence and parental encouragement add substantially to the variance explained by socioeconomic status, but the additional variance explained by parental encouragement is greater than the additional variance explained by intelligence. It should also be noted that the additional variance explained by parental encouragement is almost equal for males and females. Finally, socioeconomic status, intelligence, and parental encouragement together explain 36.8 per cent of the variance in college plans for males and 40.7 per cent of the variance for females. Parental encouragement explains 9.3 (36.8 — 27.5) per cent of the variance in the college plans of males and 13.2 (40.7 — 27.5) per cent of the variance for females over and above that explained by both socioeconomic status and intelligence. In short, parental encouragement adds very substantially to the explained variance in the college plans of both males and females over and above that explained by socioeconomic status and intelligence.

In summarizing the correlational analysis, it is evident that social class differences in the college plans of Wisconsin high school seniors are not completely accounted for either by the level of students' intelligence or by perceived parental encouragement, or both. Also, the relationship of parental encouragement to college plans is not simply an additive combination of the relationships of socioeconomic status and intelligence to parental encouragement. Its added independent contribution to the explained variance in the college plans of males as well as females is substantial. This demonstrates the usefulness of parental encouragement as an explanatory variable without undermining the importance of socioeconomic status and intelligence as explanatory variables. It is possible to determine and compare the direct and indirect effects of these variables on college plans by following the method of path analysis.

It is assumed in the path diagrams shown in Figure 1 that parental encouragement is determined by socioeconomic status and intelligence and that all three in turn determine college plans. The relationship between socioeconomic status and intelligence

TABLE 3

STEPWISE MULTIPLE CORRELATION COEFFICIENTS OF SOCIOECONOMIC STATUS, MEASURED INTELLIGENCE, AND PERCEIVED PARENTAL ENCOURAGEMENT WITH COLLEGE PLANS, SEPARATELY FOR MALES AND FEMALES

Independent Variable(s)	Dependent Variable	Males		Females	
		r/R	Variance Explained (%)	r/R	Variance Explained (%)
Socioeconomic status	College plans	.426	18.2	.478	22.9
Socioeconomic status and measured intelligence	College plans	.524	27.5	.524	27.5
Socioeconomic status and perceived parental encouragement	College plans	.567	32.2	.620	38.4
Socioeconomic status, measured intelligence, and perceived parental encouragement	College plans	.607	36.8	.638	40.7

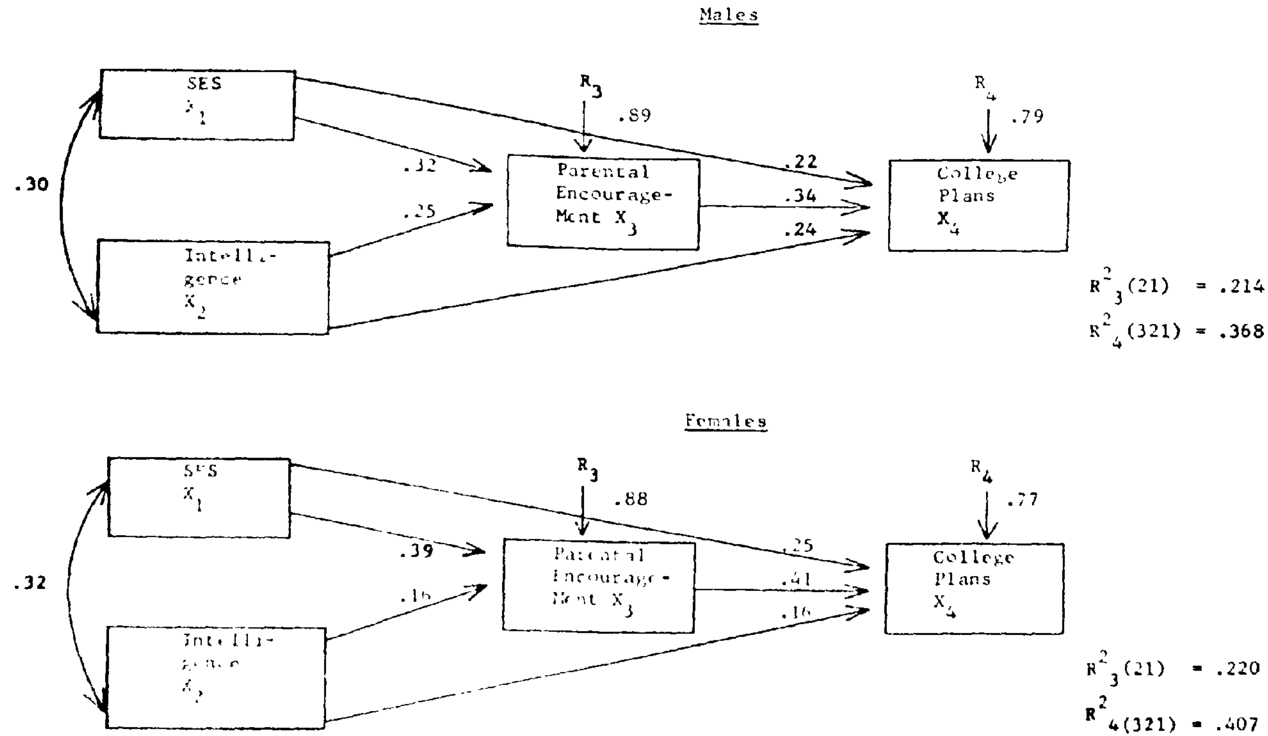


FIG. 1.—Path diagrams showing the influence of socioeconomic status, measured intelligence, and perceived parental encouragement on college plans (by sex).

is not analyzed, and, consequently, no assumption is made regarding the causal link between them. The R_3 and R_4 indicate the residual factors determining parental encouragement and college plans, respectively. Although the path analysis generally corroborates the findings of the correlational analysis, several observations should be made from the path coefficients indicated in this figure.

First, neither parental encouragement nor college plans are completely accounted for by the variables explicitly included in this study. The magnitude of the effect of the residual factors on these variables is very large. Substantial proportions of the variance in parental encouragement (78.6 per cent for boys and 78.0 per cent for girls) cannot be accounted for by socioeconomic status and intelligence. Similar proportions of the variance in the college plans of males and females are not accounted for by socioeconomic status, intelligence, and parental encouragement—63.2 per cent and 59.3 per cent, respectively. These large residuals indicate the need for bringing additional variables into the system.

Second, for both boys and girls the contribution of socioeconomic status to parental encouragement is greater than that of intelligence. But, while the effect of socioeconomic status on parental encouragement is greater for girls than for boys, the effect of intelligence on parental encouragement is greater for boys than for girls.

Third, the direct effect of parental encouragement on the college plans of boys as well as girls is greater than that of either socioeconomic status or intelligence. It should be noted in this connection that both socioeconomic status and intelligence also exert some indirect effect on college plans through their effect on parental encouragement. The direct effects of socioeconomic status and intelligence on the college plans of boys are almost equal, but the direct effect of socioeconomic status on the college plans of girls is much greater than the direct effect of intelligence on their college plans.

Finally, for boys as well as girls, while the direct effects of intelligence on parental encouragement and on college plans are almost equal, the direct effect of socioeconomic status on parental encouragement is much greater than its direct effect on college plans.

In summary, the correlational and the path analyses indicate very clearly that while there is some common component in socioeconomic status, intelligence, and parental encouragement which accounts for their relationship to college plans, all three variables have substantial independent relationships of their own to college plans. With particular reference to the major purpose of this study, neither intelligence nor parental encouragement, individually or jointly, can completely account for the social class differences in the college plans of either males or females. This conclusion leads to the examination of a final question in this paper, namely, whether or not there are specific subpopulations of sex, intelligence, and parental encouragement in which social class differences in college plans are eliminated.

The multivariate cross-tabular data presented in Table 4 give the percentages of males and females planning on college, by socioeconomic status, intelligence, and parental encouragement. The separate relationships of socioeconomic status, intelligence, and parental encouragement to college plans can be examined from the marginals in this table. Each of these relationships is positive, monotonic, and statistically significant. The relationship of socioeconomic status to college plans, controlling only for intelligence, can be examined from the columns marked "Total" under the four intelligence categories. The control for intelligence reduces but does not eliminate the social class differences in the college plans of males and females in each category of intelligence. Similarly,

TABLE 4

PERCENTAGES OF STUDENTS WHO PLANNED ON COLLEGE, BY SOCIOECONOMIC STATUS, MEASURED INTELLIGENCE, AND PERCEIVED PARENTAL ENCOURAGEMENT, SEPARATELY FOR MALES AND FEMALES

Socioeconomic Status	Perceived Parental Encouragement											
	Males						Females					
	%	N	%	N	%	N	%	N	%	N	%	N
	Low Intelligence											
	Low*		High*		Total*		Low*		High		Total*	
Low	1.1	353	16.8	77	4.0	430	1.1	459	17.0	53	2.7	512
Lower middle	0.8	234	24.3	111	8.4	345	3.7	296	32.2	90	10.4	386
Upper middle	4.6	174	34.1	138	17.6	312	4.1	170	33.3	108	15.5	278
High	7.6	52	40.6	96	29.0	148	10.7	56	38.3	94	28.0	150
Total	2.2	813	29.8	422	11.7	1,235	3.0	981	31.8	345	10.5	1,326
	Lower Middle Intelligence											
	Low		High*		Total*		Low*		High*		Total*	
Low	4.2	216	31.4	105	13.0	321	1.6	317	23.0	61	5.0	378
Lower middle	3.4	208	40.3	159	19.4	367	7.5	255	34.8	135	16.9	390
Upper middle	4.8	126	40.2	184	25.8	310	6.3	206	45.4	165	23.7	371
High	9.6	52	57.8	213	48.3	265	6.6	75	59.1	186	44.0	261
Total	4.4	602	44.5	661	25.4	1,263	4.9	853	45.0	547	20.6	1,400
	Upper Middle Intelligence											
	Low		High*		Total*		Low*		High*		Total*	
Low	8.7	138	41.3	92	21.7	230	3.6	224	36.4	55	10.0	279
Lower middle	9.4	127	50.2	185	33.6	312	6.8	176	42.2	147	22.9	323
Upper middle	15.6	109	59.6	248	46.2	357	6.4	186	47.6	191	27.3	377
High	18.0	50	77.5	289	68.7	339	21.6	60	74.0	311	65.5	371
Total	11.8	424	61.8	814	44.7	1,238	7.0	646	57.2	704	33.2	1,350
	High Intelligence											
	Low		High*		Total*		Low		High*		Total*	
Low	13.0	77	53.2	92	34.9	169	11.9	109	53.8	52	25.4	161
Lower middle	17.7	96	66.8	178	49.6	274	11.7	128	59.0	122	34.8	250
Upper middle	12.5	48	73.0	271	64.0	319	19.8	101	64.8	219	50.6	320
High	32.0	25	88.4	468	85.6	493	21.0	62	78.6	458	71.7	520
Total	16.6	246	77.3	1,009	65.4	1,255	15.2	400	70.7	851	53.0	1,251
	Total											
	Low*		High*		Total*		Low*		High*		Total*	
Low	4.4	784	36.3	366	14.6	1,150	2.8	1,109	32.1	221	7.7	1,330
Lower middle	5.7	665	47.9	633	26.3	1,298	6.6	855	42.5	494	19.8	1,349
Upper middle	8.1	457	55.5	841	38.8	1,298	7.8	663	50.4	683	29.4	1,346
High	14.5	179	75.0	1,066	66.4	1,245	14.6	253	70.2	1,049	59.4	1,302
Total	6.5	2,085	58.6	2,906	36.9	4,991	6.2	2,880	55.6	2,447	28.9	5,327

* The χ^2 for each column designated is significant beyond the .05 level

from the bottom part of Table 4, the relationship of socioeconomic status to college plans continues to be positive, monotonic, and statistically significant when only parental encouragement is controlled. However, since the purpose of this multivariate cross-tabular analysis is to specify the subgroups in which the influence of social class on college plans is either markedly pronounced or markedly reduced, only the columns showing a simultaneous cross-tabulation of socioeconomic status, intelligence, and parental encouragement will be discussed here. Several observations can be made from these data.

First, the dictum—that the higher the level of socioeconomic status the higher the level of educational aspirations—is generally true, even after sex, intelligence, and parental encouragement are controlled. Except for some slight reversals in the two middle categories of socioeconomic status, the relationship between socioeconomic status and college plans is generally positive and monotonic. While only about 1 per cent of males and females with low intelligence and low parental encouragement from the low socioeconomic status category planned on college, 88.4 per cent of the males and 78 6 per cent of the females with high intelligence and high parental encouragement from the high socioeconomic status category planned on college. The proportions planning on college in the remaining socioeconomic status categories, by intelligence and parental encouragement, fall within this range. However, the difference in the percentage of students planning on college from the bottom and the top socioeconomic status categories of these subgroups varies over a wide range—from a minimum of 5 per cent to over 35 per cent.

Second, the socioeconomic status differences in the college plans of the seniors are almost four times as great for those who perceived parental encouragement as for those who did not. Further, these differences are generally greater for those who are in the two upper categories of intelligence than for those in the two lower categories of intelligence. Thus, differences in the levels of both intelligence and parental encouragement seem to increase the socioeconomic status differences in the college plans of youth. In other words, the socioeconomic status differences in college plans of youth are greater among the most able and the most encouraged than among the least able and the least encouraged.

Third, in most categories of socioeconomic status, intelligence, and parental encouragement, the proportion of students planning on college is greater for males than for females. This indicates the important influence of sex-role expectations on the college plans of youth. However, sex-role expectations seem to bear more heavily on those who are high in intelligence than on those who are low in intelligence. The greater proportions of females than of males planning on college in some of the subgroups within the two lower categories of intelligence support this conclusion.

Fourth, the socioeconomic status differences in college plans of the seniors in both categories of parental encouragement are greater among those who are most intelligent than among those who are least intelligent. On the one hand, among those who did not perceive parental encouragement and who are least able, only about 1 per cent of males and females from the low socioeconomic status category planned on college as against 7.6 per cent of males and 10 7 per cent of females from the high socioeconomic status category. On the other hand, among those who did not perceive parental encouragement but who are most able, 13 0 per cent of males and 11.9 per cent of females from the low socioeconomic status category planned on college as against 32 0 per cent of males and 21.0 per cent of females from the high socioeconomic status category. Similarly, among those who perceived parental encouragement and who are least able, about 17 per cent of both males and females from the low socioeconomic status category planned on college as

against 40.6 per cent of males and 38.3 per cent of females from the high socioeconomic status category. Among those who perceived parental encouragement and who are most able, about 53 per cent of males and females from the low socioeconomic status category planned on college as against 88.4 per cent of males and 78.6 per cent of females from the high socioeconomic status category. Thus, ability continues to accentuate the social class differences in aspirations of both males and females, regardless of whether or not they perceive parental encouragement to plan on college.

Finally, in each category of socioeconomic status and intelligence, the proportion of males and females planning on college is greater among those who perceived parental encouragement than among those who did not. In particular, in all categories of intelligence, the proportion of males and females planning on college is greater among the low socioeconomic status seniors who perceived parental encouragement than among the high socioeconomic status seniors who did not perceive parental encouragement. Consequently, parental encouragement seems to be a powerful factor in encouraging seniors who are low in socioeconomic status but high in ability to plan on college. In general, however, parental encouragement appears to have its strongest effect on the college plans of males and females who score relatively high on intelligence and come from families occupying relatively high socioeconomic positions.

In addition to providing the reader with an opportunity to see the effects of the several variables on college plans in familiar percentage terms, the multiple cross-tabular analysis tends mainly to emphasize and reinforce what was already known from the correlation analysis; namely, that (1) there are large differences between the socioeconomic status categories in college plans; (2) even though these differences are reduced when sex, intelligence, and parental encouragement are controlled, there are still large and important socioeconomic status differences in college plans, especially in the top two intelligence groups where college plans are most relevant in any case; (3) where parental encouragement is low, relatively few students, regardless of their intelligence or socioeconomic status levels, plan on college (even highly intelligent students with high social class origins who are not encouraged by their parents are not likely to plan on college); (4) where parental encouragement is high, the proportion of students planning on college is also high, even when socioeconomic status and intelligence levels are relatively low. Thus, it may be concluded that while social class differences cannot be entirely explained by differences in parental encouragement (or intelligence) among the various socioeconomic classes, parental encouragement makes an independent contribution to social class differences in college plans of both males and females; (5) the effects of sex-role expectations are such that girls' educational aspirations are generally lower than those of boys and are somewhat more sensitive to socioeconomic background than to ability or parental encouragement.

CONCLUSIONS

The correlational, causal, and cross-tabular analyses in this study substantiate, on the whole, the claim made by other investigators using less rigorous methods and less representative samples that parental encouragement is a powerful intervening variable between socioeconomic class background and intelligence of the child and his educational aspirations. While parental encouragement does not "explain" social class differences in aspirations, it contributes to the explanation of these differences. Because parental encouragement is a social-psychological variable, it is presumably subject to modification by means of programs of counseling directed at parents or parents and children, whereas the child's intelligence and family socioeconomic status are likely to be more difficult to influence at this point in the child's development.

At the same time there is still a good deal of variance in college plans of the socioeconomic classes that is not explained either individually or jointly by parental encouragement and intelligence. This leads to the question of what other factors may help to explain social class differences. Within the complex which is subsumed under socioeconomic status, the economic resources available for the support of college education must be an important determinant, and none of the studies reported to date have adequately assessed this aspect of socioeconomic level. Information regarding the economic resources of the families of the seniors under study is being currently collected from public sources which will make such an analysis possible. Other variables that should be considered include the student's knowledge of available opportunities for scholarships, loans, and jobs, and the student's self-conceptions—including his assessment of his chances for success in college, his reference groups, and various contextual influences such as the value climate and the opportunity structures of his school and community. All of these factors are in need of further study for increasing and strengthening the knowledge of the factors involved in social class differences in educational aspiration and for understanding more fully the contribution of nonintellectual factors to educational aspiration.

UNIVERSITY OF WISCONSIN

Marx's Use of "Class"

Bertell Ollman

ABSTRACT

We attempt to derive Marx's theory of class through the way he uses the term, rather than through an interpretation of his most general statements on the subject, which is how class has usually been approached. "Class" is seen to refer to social and economic groupings based on a wide variety of standards whose interrelations are those Marx finds in the real society under examination. By conceptualizing a unity of apparently distinct social relations, "class" in Marxism is inextricably bound up with the truth of Marx's own analysis. Its utility is a function of the adequacy of this analysis.

What are the classes into which Marx places the inhabitants of capitalist society? In *Capital,* he says that in developed capitalist society there is only a capitalist and a proletarian class.[1] The former, who are also called the bourgeoisie, are described in the *Communist Manifesto* as "owners of the means of social production and employers of wage labor." In the same place, the proletariat are said to be "the class of modern wage-laborers who, having no means of production of their own, are reduced to selling their labor-power in order to live."[2] But, though Marx believed European capitalism was sufficiently advanced for a Communist revolution to occur, he asserts elsewhere in *Capital* that three classes—capitalists, proletarians, and landowners—"constitute in their mutual opposition the framework of modern society."[3] For Marx, the landowner class is composed of owners of large tracts of land and is almost always feudal in origin. Has the standard by which Marx assesses class membership altered?[4]

Even where the basis for distinguishing classes appears to be a group's relations to the prevailing mode of production, the question is not the simple one of whether there are two or three classes, for Marx applies this label to several other economic units. Two outstanding examples are the petty bourgeoisie and the peasants. The former are small shopkeepers who own no means of production or, sometimes, a very tiny morsel, and employ at most a few workers; and the latter are the owners of small plots of land which they farm themselves. Their respective relations to the prevailing mode of production in capitalism are not those of the capitalists, the proletariat, or the landowners. Where, then, does Marx place small businessmen and peasants when he talks of society being made up of three classes? Also, it is not easy to draw the line between these classes.

[1] Karl Marx, *Capital* (Moscow, 1957), II, 348.

[2] Karl Marx and Friedrich Engels, *The Communist Manifesto,* translated by Samuel Moore (Chicago, 1945), p. 12.

[3] Marx, *Capital* (Moscow, 1959), III, 604.

[4] The landowners are included as one of the "three great social classes" mentioned in Marx's Introduction to the *Critique of Political Economy* and are referred to as a separate class in a number of other places ("Introduction," *A Contribution to the Critique of Political Economy,* translated by N. I. Stone [Chicago, 1904], p. 305). In "The Eighteenth Brumaire of Louis Bonaparte," however, Marx treats them as a section of the bourgeoisie, claiming that "large landed property, despite its feudal coquetry and pride of race, has been rendered thoroughly bourgeois by the developments of modern society" (Marx, "The Eighteenth Brumaire of Louis Bonaparte" in Marx and Engels, *Selected Writings* [Moscow, 1951], I, 248).

At what point does a small businessman stop being petty bourgeois and become a capitalist? How much land does a peasant have to own before he becomes a landowner?

Should we admit as classes all the groups mentioned, there are still other elements in the population that are difficult to place. Are farm laborers, for instance, proletarians or peasants? The inclusion of rural wage workers as proletariat is required to give validity to Marx's claim that the proletariat contains the vast majority of people in capitalist society.[5] He must have been aware of the fact that industrial wage earners were a clear minority in capitalist Germany at that time.[6] On at least one occasion, Marx states explicitly that farm laborers are proletarians; yet, the whole weight of his treatment of the proletariat as workers in industry argues against this.[7] And, whenever Marx particularizes, it is of industrial workers that he speaks.

Beyond this, there is an indication that Marx sometimes extends the class of proletarians to include small-holding peasants as well, as when he states, "The owning peasant does not belong to the proletariat, and there where he does belong to it by his position, he does not believe that he belongs to it."[8] Marx's point is that because of his indebtedness to various capitalists, the mortgage on his property, etc., the peasant does not really own his plot of land, and is actually working for someone else. Bringing the peasantry into the proletariat may help account for Marx's division of advanced capitalist society into two main classes; the landowners and the petty bourgeoisie, we can assume, have been swept under the rug of "capitalist." Most often in his writings, however, the peasants are referred to as a separate class whose distinctive qualities are aptly summed up in the phrase, "class of barbarians."[9]

Marx's contradictory attempts to categorize the intelligentsia is extremely revealing of the problems encountered in a straight economic division of society. Usually, he speaks of doctors, lawyers, journalists, professors, writers, and priests as "the ideological representatives and spokesmen" of the bourgeoisie.[10] Referring to petty bourgeois politicians and writers, Marx explains that what makes them representatives of this class "is the fact that in their minds they do not get beyond the limits which the latter do not get beyond in life, that they are consequently driven, theoretically, to the same problem and solutions to which material interest and social position drive the latter practically."[11]

The relationship between the intelligentsia and the capitalist class is further clarified where Marx says the ideologists of a class are those "who make the perfecting of the illusion of the class about itself their chief sources of livelihood." This, he claims, is based on a division of labor inside the class between mental and physical work.[12] Though it would appear to be general, Marx carefully restricts his own application of this principle to the bourgeoisie. From comments such as these, the intelligentsia and the capitalists stand forth as brothers, similar at the core, who are merely specializing in different areas of capitalist "work."[13]

[5] Marx and Engels, *The German Ideology*, translated by R. Pascal (London, 1942), p. 69

[6] See Edward Bernstein, *Evolutionary Socialism*, translated by Edith Harvey (London, 1909), p. 106.

[7] Marx says, "The capitalist tenant has ousted the peasant, and the real tiller of the soil is just as much a proletarian, a wage worker, as is the urban worker" (H. Meyer, "Marx on Bakunin: A Neglected Text," *Études de Marxologie*, edited by M. Rubel [October, 1959], p. 109).

[8] *Ibid.*, p. 108.

[9] Marx, *Capital*, III, 793.

[10] Marx, "The Class Struggles in France," *Selected Writings*, I, 129.

[11] "Eighteenth Brumaire," *op. cit.*, p. 250.

[12] *German Ideology*, pp. 39, 40.

[13] In the *Communist Manifesto*, the intelligentsia are referred to as the "paid wage-laborers" of the bourgeoisie (*Communist Manifesto*, p. 16). Marx's terminology here suggests a strong likeness between the intelligentsia and the proletariat. Nonetheless, the context makes it clear that their real place even here is within the capitalist class.

Though they are usually subsumed under the capitalist class, this does not preclude Marx, on occasion, from ascribing to the intelligentsia a status, not just as a class, but as a cluster of classes. In *Capital*, Volume I, for example, he speaks of them as the "ideological classes."[14] If Marx sometimes puts the intelligentsia among the capitalists and sometimes puts them on their own, he is obviously changing his criteria for deciding what constitutes a class.

Besides referring to capitalists, proletarians, landowners, petty bourgeoisie, and peasants, "class" is also used to refer to groups carved out of society on another basis than their relations to the mode of production. Such groups frequently contain members from two or more of the economic classes dealt with above. What Marx calls the "ideological class," for example, seems to be based on the role these people play in society at large, rather than in production. The ruling classes, another social unit found in Marx's writings, appears to have been marked out by the same measure: those individuals who take part in running the country or who help decide how it should be run are its members.[15] In Great Britain, the ruling classes are said to be composed of the "aristocracy," "moneyocracy," and "millocracy."[16] Thus, they include both capitalists and landowners, most of whom belong to the aristocracy. The "millocracy" refers to owners of factories which produce materials for clothing: and the "moneyocracy," or "finance aristocracy," refers to bankers and the like, who earn their entrance into the capitalist class as hirers of wage labor and by virtue of their monetary dealings with industrialists.[17]

Marx also speaks of a "lower middle class" which includes "the small manufacturers, the shopkeeper, the artisan, the peasant."[18] This class, it appears, picks up some members from all the economic classes mentioned earlier. What is the criterion by which Marx determines who belongs to the lower middle class? Judging by its membership, it could be income, power, or even distance from the extremes of involvement in the class struggle.

One last example: what are we to make of the group Marx calls the "dangerous class," otherwise known as the *Lumpenproletariat*, which is said to be composed of "the social scum, that passively rotting mass thrown off by the lowest layers of old society"?[19] It is spoken of elsewhere as "a recruiting ground for thieves and criminals of all kinds, living on the crumbs of society, people without a definite trade, vagabonds, people without a hearth or a home."[20] By what standard does Marx judge membership in this class? It seems to be a gathering place for all the unemployed poor, though Marx's term, "dangerous class," suggests a certain action criterion as well. The *Lumpenproletariat* sell their services to the bourgeoisie, who use them as strikebreakers, labor spies, and fighters against the workers in times of revolution. Such are their actions which make them the "dangerous class."[21]

The plurality of criteria Marx uses in constructing classes is reminiscent of present-day confusion on this subject It is not enough to argue—as some have—that

[14] Marx, *Capital*, translated by Samuel Moore and Edward Aveling (Moscow, 1958), I, 446

[15] Of this class, Marx says, "the class, which is the ruling material force of society, is at the same time its ruling intellectual force" (*German Ideology*, p. 39). Though Marx uses the expression "ruling class" in ways which suggest a more functional definition, this statement does serve notice where the real power of any ruling class lies for Marx

[16] Marx, "The Future Results of British Rule in India," *Selected Writings*, I, 321.

[17] Elsewhere, the latter group, or some part of it—the big money lenders and usurers—is labeled a "class of parasites" (*Capital*, III, 552)

[18] *Communist Manifesto*, p. 27.

[19] *Ibid.*

[20] "Class Struggles in France," *Selected Writings*, I, 142.

[21] Engels, it is worth noting, has even more referents for "class" than Marx, especially in *Germany: Revolution and Counter Revolution*.

Marx's idea of class develops over time, for many of the complications we have drawn attention to are found in the same work or in writings of the same period. If readers of this article will check the citations which correspond to my footnotes 1, 3, 9, 14, and 17, they will see a sampling of the various and apparently contradictory uses of "class" in the volumes of *Capital*. The conclusion remains that, for a variety of purposes, Marx divides society up in as many different ways, speaking of the parts in each case as "classes."

Any attempt to explain Marx's practice must start with the admission that Marx uses this term loosely, often putting it forward as a synonym for "group," "faction," or "layer." This was only in keeping with the imprecise use of "class" which Rolf Dahrendorf informs us was typical of his period.[22] Where Marx speaks of "ruling classes," "groups" or "factions" could be substituted for "classes' without any alteration in the meaning. Marx himself uses "ruling class" and "ruling faction" interchangeably in one instance to refer to the same people.[23] "Groups" could also be substituted for "classes" without any change of meaning in the expression "ideological classes"; and either "group" or "layer" would serve for "class" where Marx talks of the "dangerous class." With all due allowance made for loose word usage, however, Marx cannot escape the more serious accusation of having a litter of standards for class membership and of changing them without prior warning.

The implications of this disorder for Marx's class analysis of society should not be carried too far, since Marx's tripartite division of society into capitalists, proletarians, and landowners is the prevalent one, and it is also the classification most in keeping with his other theories. Hence, we may in fairness dub it the "Marxist system of classes." The other classes mentioned can be made more or less consistent with this division on the basis of hints Marx drops but nowhere develops. These hints are found in his expressions, "subdivisions of classes" and "transition classes."[24] The former helps us comprehend occupational, income, and functional units within the three great classes based on differing relations to the prevailing mode of production. Millocracy, moneyocracy, and shipbuilders are all subdivisions of the capitalist class, just as skilled and unskilled workers are subdivisions of the proletariat.

The concept of "transition class" can be used to justify leaving out of the more general presentations of the class system, those groups which are in the process of disappearing. Small-holding peasants and petty bourgeoisie are among the classes Marx sees disappearing in his own day.[25] A stumbling block to taking this way out is that "transition class" is a highly subjective concept even within Marx's own analytical framework; any class, after all, can be viewed as passing out of the picture, depending on the time span under consideration. We saw Marx claim that, in fully developed capitalism, only a capitalist and a proletarian class exist; therefore, if this is the period one has in mind, all other classes are transitional. After the proletarian revolution, however, the capitalist class, too, disappears; and, when communism arrives, the proletariat as well dissolves into the community. All references to "transition classes," therefore, if they are to convey any meaning at all, must make explicit the time period under consideration.

Marx's only attempt to present a connected account of class appears at the end

[22] Rolf Dahrendorf, *Class and Class Conflict in Industrial Society*, translated by the author (London, 1959), p. 4.

[23] "Class Struggles in France," *Selected Writings*, I, 130.

[24] Marx, "The Bourgeoisie and the Counter-Revolution," *Selected Writings*, I, 63; "Eighteenth Brumaire," *Selected Writings*, I, 253.

[25] *Communist Manifesto*, p. 16. Many groups, such as the petty bourgeoisie, fall into both of the above categories; they are a subdivision of the capitalist class and, for the period in which Marx is writing, a transition class as well.

of Volume III of *Capital*, but, unfortunately, he never completed it.[26] From these few paragraphs, we learn that wage laborers, capitalists, and landowners constitute the three large classes of modern society. Yet, he admits that, even in England where capitalism is most developed, "the stratification of classes does not appear in its pure form. Middle and intermediate strata even here obliterate lines of demarcation everywhere (although incomparably less in rural districts, than in the cities)." He believes that developments in capitalist society are speedily reducing all such strata into the capitalist or proletarian class. The landowners, too, are shortly to go the same way. With the growing divorce between the means of production and labor, Marx sees all workers eventually becoming wage laborers. As for capitalists, the trend toward increasing concentration in industry enlarges the holdings of some just as it forces others into the proletariat.

Marx replies to his own question, "What constitutes a class?" with another, "What makes wage laborers, capitalists, and landlords constitute the three great social classes?" The fragment he left behind contains only the first part of his answer: "At first glance—the identity of revenues and sources of revenue. There are three great social groups whose numbers, the individuals forming them, live on wages, profit, and ground rent, respectively, on the realization of their labor-power, their capital, and their landed property." Marx recognizes that this standard also enables physicians and officials to be spoken of as "classes," "for they belong to two distinct groups receiving their revenues from one and the same source. The same would also be true of the infinite fragmentations of interest and rank into which the division of social labor splits laborers as well as capitalists and landlords—the latter, e.g., into owners of vineyards, farm owners, owners of forests, mine owners and owners of fisheries." Here, the manuscript breaks off. When concentrating on the problem of class, Marx takes a stand against affixing this label to all kinds of social and economic groups, which is something he himself was guilty of.

From our study of Marx's use of the term "class," we can suggest how he would have finished this account. The qualifications for constituting a class that capitalists possess and physicians do not are as follows: the capitalists have a direct operating relationship to the mode of production, while physicians do not; the capitalists have distinct economic interests (the size of their profit) based on these relations which place them in conflict with the proletariat and landowners, the other two groups directly involved in capitalist production, while the economic interests of physicians—though leaning toward those of the capitalists in present society—are really compatible with the interests of any of the three great classes; the capitalists are conscious of their uniqueness as a class with interests that are opposed to those of the two other main classes in society, while physicians, even if they are conscious of themselves as a distinct group, do not view their interests as being opposed to those of others; the capitalists are organized in one or more political parties, which work to promote their interests, while physicians—despite their pressure group activity—have no such organization; and, finally, capitalists exhibit a general cultural affinity, a way of life and set of social values, which mark them off from the proletariat and the landowners, while physicians as a group have no such distinguishing features.[27]

A thread which runs through all of these criteria is the hostility a class displays for

[26] Unless otherwise signified, what follows comes from *Capital*, III, 862–63.

[27] Whether the culture, way of life, and social values of capitalists really differ more from those of other sections of the population than the equivalent attributes of physicians is not at issue. All that concerns us is that Marx thought they did, for this belief was an important element in his construction of classes.

its opponent classes. Whether in work, politics, or culture, an essential defining characteristic of each class is its antagonism in this same sphere to others. For the capitalists, this can be seen in their hostile relations to the workers and the landowners at the point of production, in their political struggle to promote their interests at the expense of these classes, and in the cultural sideswipes they are forever directing against them. Of the bourgeoisie, Marx says, "The separate individuals form a class in so far as they have to carry on a common battle against another class: otherwise they are on hostile terms with each other as competitors."[28] This common battle is fought on as many fronts as there are criteria for constituting a class. On each front, it is the fact of battle itself which earns each side its label. Hence, Marx calls a society where only one class exists, such as occurs after the proletarian revolution, a classless society. Without an enemy, the antagonistic nature of the proletariat disappears and with it the designation "class." "Who is the enemy?" is a question that can be asked whenever Marx uses "class."

The secret of class in Marxism lies hidden in the socialist philosopher's conceptualization of it as a complex rather than a simple relation. In "class" Marx conflates a number of social ties (relations between groups based on various standards) which are generally treated separately. He views them as interacting parts of an organic whole, the society in question, such that development in any one necessarily affects (more or less, sooner or later) the others. The mistake made in virtually all treatments of this subject, a pit we could only climb out of after falling in ourselves, is to seek after a unidimensional meaning. But, by this maneuver, class is distorted to the number of major elements left unreported. The various criteria for establishing class, therefore, simply reflect the wealth of social relations that Marx sees bound up in it.

Only in advanced capitalism is it possible for a group to qualify as a class on all the criteria I have listed. Hence, Marx's assertion that class is a "product of the bourgeoisie."[29] To take just one instance, the absence of effective communication in earlier periods inhibits the exchange of information and contacts which is essential for class formation. An awareness of common interests as well as co-ordinated action to promote them are impossibilities for people living in scattered communities.

But if class is a product of capitalism, how can Marx speak of all history as the history of class struggle or refer—as he frequently does—to the distinguishing social divisions of previous epochs as "classes"?[30] To answer this query is also to demonstrate how he was able to refer to so many groups in capitalist society as "classes." It is simply that Marx applies this label if a group measures up to only some of the above standards. Which these are varies with his purpose in making the particular classification. This is the nub of the explanation for Marx's apparent confusion over class. If we want to discover the relevant criteria in each case, we must follow up our question, "Who is the enemy?" with one, "Why are they the enemy?" Nothing that has been said absolves Marx from the accusation of using "class"

[28] *German Ideology*, pp. 48–49.

[29] *Ibid*, p. 77. This is not to say that every capitalist society has a fully developed system of classes. Marx refers to the United States as a place "where although classes already exist, they have not yet become fixed, but continually change and interchange their elements in constant flux" ("Eighteenth Brumaire," *Selected Writings*, I, 232). Marx never adequately explains this exception.

[30] He says, "The history of all hitherto existing society is the history of class struggles" (*Communist Manifesto*, p. 12). In a footnote to the 1888 English edition, Engels qualifies this where he says, "that is, all written history." He points out that in 1848 Marx and he did not know about the existence of primitive communism (*ibid.*). In any case, Engels' qualification does not affect our use of this statement.

loosely, but it should help us comprehend what lies behind this usage.[31]

Whether it was proper of Marx to apply the label "class" on the basis of only a few of the relevant criteria is open to dispute, but that he could not wait for all of them to be satisfied before using this term is clear. Otherwise, he would have defined himself out of the running, for even the capitalists and the proletariat are occasionally seen to be without some of the requisite attributes. He says of the proletariat, for example, "Thus this mass is already a class in opposition to capital, but not yet a class for itself."[32] The missing ingredient is class consciousness, the proletariat's comprehension of their life situation and their acceptance of the interests and enemies which accrue to it.

Elsewhere, Marx suggests the proletariat are not a class, because they lack a class-wide political organization. In a letter to Kugelmann, Marx speaks of his program for the Geneva Conference of the First International as helping "the organization of the workers into a class."[33] In the *Communist Manifesto,* he specifically links this up with the formation of a political party.[34] Insofar as class consciousness remains the achievement of a few, and before such a party exists, the proletariat, even in the most advanced capitalistic societies, lack two major qualifications for constituting a class.[35] A similar breakdown could be made of the capitalists and, in fact, of all the groups Marx calls "classes."[36]

There is a still more formidable objection to Marx's use of "class." Besides changing his standards when moving from one group to the next, the same group—as indicated by its popular name—may be given its measure by a variety of standards. Depending on his purpose, Marx may mean by "proletariat" all wage earners, the simplest and largest net of all. Or he may mean those who pass one or any few of the income, cultural, political, and social tests that have been listed. With the shift in criteria, there is a shift, often of huge proportions, in the number of people referred to. This explains, of course, why some groups —peasants, rural workers, intellectuals, and shopkeepers being the prize examples —are sometimes found in one class and sometimes in another. This objection might have proved fatal for those wishing to comprehend Marx's views about his contemporaries if certain trends were not apparent in his use of class labels. Generally, Marx's comments on the proletariat only apply to industrial wage earners, and his descrip-

[31] To make his plurality of standards explicit, which we would have liked, would have made it necessary for Marx to tell more than he "had time for." It is simply that the requirements of getting on with his task of the moment forced him to subsume a great deal of the relations he was treating. On the one occasion when he sought to sketch out the main relations in "class," death intervened.

[32] Marx, *The Poverty of Philosophy* (Moscow, n.d.), p. 195.

[33] Marx, *Letters to Dr. Kugelmann* (London, 1941), p. 19.

[34] *Communist Manifesto,* p. 26.

[35] These deficiencies are closely related. Increased class consciousness advances the cause of political organization by creating greater interest in it, while organizational activity heightens class consciousness through the propaganda it makes possible. Both deficiencies disappear with the further development of the capitalist mode of production. Marx says, "The organization of revolutionary elements as a class supposes the existence of all the productive forces which could be engendered in the bosom of the old society" (*Poverty of Philosophy,* p. 196).

[36] The most explicit statement of this duality occurs in regard to the French small-holding peasants, of whom Marx says, "In so far as millions of families live under economic conditions of existence that separate their mode of life, their interests and their culture from those of other classes, and put them in hostile opposition to the latter, they form a class. In so far as there is merely a local interconnection between these small-holding peasants, and the identity of their interests begets no community, no national bond and no political organization among them, they do not form a class" ("Eighteenth Brumaire," *Selected Writings* I, 303). It appears that economically and culturally the peasants are a class, but as regards class consciousness and politics, they are not.

tions of capitalists are usually meant for large merchants and bankers as well as for the owners of the means of production. These are the chief characters in Marx's realistic drama, *Capital.*

This brings us to the next and, for many, obvious question, "How useful is Marx's concept of 'class'?" But, if our statement of what Marx meant by "class"—garnered from his actual use of the term—is correct, this question simply masks another more profound one concerning the utility of Marxism itself. By conceptualizing a unity of apparently distinct social relations, "class" is inextricably bound up with the reality of the unity so posited, that is, with the truth of Marx's own analysis. For the interwoven criteria Marx used for understanding what constitutes a class represents the result of his empirical social studies.

It is only, in other words, because Marx found groups in his society with different relations to the prevailing mode of production, sets of opposing economic interests based on these relations, a corresponding cultural and moral differentiation, a growing consciousness among these groups of their uniqueness and accompanying interests, and—resulting from this consciousness—the development of social and political organizations which promote these interests that he constructed his peculiar concept of "class." Of overriding importance is that "class" in Marxism is not just a label for groups carved out of society on the basis of a discernible set of standards, but expresses as well the involved interaction which Marx believed he uncovered between these standards.[37] When critics, such as R. N. Carew-Hunt, therefore, ask complainingly for Marx's definition of "class." they are asking, in effect, for the latter's analysis of capitalist class society; and it is understandable that Marx had difficulty in reconstituting this analysis in the form of a definition for "class."[38]

For those who accept Marx's version of capitalist social relations, the key concepts in which it is couched are second nature; "class" serves as a necessary vehicle for conveying what Marx taught. For those who do not share Marx's analysis, or something close to it, using his concept "class" can only distort what they have to say. We are not interested here in the utility of this concept as an aid in presenting Marxism when the purpose is to criticize the doctrine. Nor should our conclusion be taken as an argument against using the word "class" in some non-Marxist sense, as long as this is made clear. One can define the word "class" to suit practically any end, but it is altogether another matter to use Marx's concept "class" in ways other than he did himself.

Words are the property of language, but concepts—and "class" is both a word and a concept—belong to a particular philosophy (way of viewing the world) and share in all of the latter's uniqueness. As a concept, "class" cannot be detached from the structured knowledge it seeks to express and of which it is, in the last analysis, an integral part. Does Marx provide an adequate account of social relations in capitalism? It is on the answer to this question that the utility of Marx's concept of "class" hinges.[39]

[37] The interaction offered here is not meant to be complete. One whole area which has not been taken account of at all has to do with the role of class in Marx's theory of alienation.

[38] R. N. Carew-Hunt, *The Theory and Practice of Communism* (London, 1963), p. 65. As we have indicated, one possible exception to this rebuke is the short, unfinished chapter on class in *Capital*, III, 862–63.

[39] It is our view that the same analysis could be made of Marx's other key concepts—"class struggle," "value," "surplus-value," "freedom," "labor-power," "alienation," etc. Like "class," each expresses an aspect of the social reality Marx believes he uncovered, and, like "class," the full meaning Marx attaches to these concepts can only be deciphered by examining how he actually uses them in his writings. All of them are equally unavailable to those who would use them to express non-Marxist views.

Isolation, Powerlessness, and Violence: A Study of Attitudes and Participation in the Watts Riot[1]

H. Edward Ransford

ABSTRACT

The hypothesis that isolated individuals are more prone to extremism is tested, using a sample of Los Angeles Negroes interviewed shortly after the Watts riot. It is found that racial isolation (low degrees of intimate white contact) is strongly associated with a willingness to use violence under two subjective conditions: (*a*) when isolated individuals feel a sense of powerlessness in the society and (*b*) when such isolated individuals are highly dissatisfied with their treatment as Negroes. Ideal types of the most and least violence-prone are developed from the cumulative effects of the three independent variables (isolation, powerlessness, and dissatisfaction).

Since the summer of 1965, it is no longer possible to describe the Negroes' drive for new rights as a completely non-violent protest. Urban ghettos have burst at the seams. Angry shouts from the most frustrated and deprived segments of the Negro community now demand that we recognize violence as an important facet of the Negro revolution.

In attempts to understand the increase in violence, much has been said about unemployment, police brutality, poor schools, and inadequate housing as contributing factors.[2] However, there are few sociological studies concerning the characteristics of the participants or potential participants in racial violence.[3] Little can be said about which minority individuals are likely to view violence as a justifiable means of correcting racial injustices. It is the purpose of this paper to identify such individuals—specifically, to identify those Negroes who were willing to use violence as a method during a period shortly after the Watts riot.

A THEORETICAL PERSPECTIVE

Studies dealing with political extremism and radical protest have often described the participants in such action as being isolated or weakly tied to the institutions of the community.[4] Kerr and Siegel demonstrated this relationship with their finding that wildcat strikes are more common

[1] I am greatly indebted to Melvin Seeman and Robert Hagedorn for helpful comments and advice on earlier drafts of this paper. This is a revised version of a paper presented at the annual meetings of the Pacific Sociological Association, Long Beach, Calif., April, 1967.

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[3] One of the very few studies of the potential participants in race violence was conducted by Kenneth B. Clark, shortly after the Harlem riot of 1943 (see Clark, "Group Violence: A Preliminary Study of the Attitudinal Pattern of Its Acceptance and Rejection: A Study of the 1943 Harlem Riot," *Journal of Social Psychology*, XIX [1944], 319–37; see also Alfred McClung Lee and Norman D. Humphrey, *Race Riot* [New York: Dryden Press, 1943], pp. 80–87).

[4] See, e.g., William Kornhauser, *The Politics of Mass Society* (Glencoe, Ill.: Free Press, 1959), pp. 183–223; Seymour Martin Lipset, *Political Man: The Social Bases of Politics* (New York: Doubleday & Co., 1960), pp. 94–130; and Clark Kerr and Abraham Siegel, "The Interindustry Propensity to Strike—an International Comparison," in Arthur Kornhauser, Robert Dubin, Arthur M. Ross (eds.), *Industrial Conflict* (New York: McGraw-Hill Book Co., 1954), 189–212.

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among isolated occupational groups, such as mining, maritime, and lumbering.[5] These isolated groups are believed to have a weak commitment to public pressures and the democratic norms of the community. Thus, when grievances are felt intensely and the bonds to the institutions of the community are weak, there is likely to be an explosion of discontent (the strike) rather than use of negotiation or other normative channels of expression.

More recently, mass society theory has articulated this relationship between isolation and extremism.[6] The mass society approach sees current structural processes—such as the decline in kinship, the increase in mobility, and the rise of huge bureaucracies—as detaching many individuals from sources of control, meaning, and personal satisfaction. Those who are most isolated from centers of power are believed to be more vulnerable to authoritarian outlooks and more available for volatile mass movements. Indeed, Kornhauser instructs us that the whole political stability of a society is somewhat dependent upon its citizens being tied meaningfully to the institutions of the community.[7] He suggests that participation in secondary organizations—such as unions and business groups—serves to mediate between the individual and the nation, tying the individual to the democratic norms of the society.

The relationship between structural isolation and extremism is further accentuated by the personal alienation of the individual. Isolated people are far more likely than non-isolated people to feel cut off from the larger society and to feel an inability to control events in the society.[8] This subjective alienation may heighten the individual's readiness to engage in extreme behavior. For example, Horton and Thompson find that perceived powerlessness is related to protest voting.[9] Those with feelings of political powerlessness were more likely to be dissatisfied with their position in society and to hold resentful attitudes toward community leaders. The study suggests that the discontent of the powerless group was converted to action through the vote—a vote of "no" on a local bond issue being a form of negativism in which the individual strikes out at community powers. This interpretation of alienation as a force for protest is consistent with the original Marxian view of the concept in which alienation leads to a radical attack upon the existing social structure.[10]

In summary, there are two related approaches commonly used to explain participation in extreme political behavior. The first deals with the degree to which the individual is structurally isolated or tied to community institutions. The second approach deals with the individual's awareness and evaluation of his isolated condition—for example, his feeling of a lack of control over critical matters or his feeling of discontent due to a marginal position in society. Following this orientation, this research employs the concepts of racial isolation, perceived powerlessness, and racial dissatisfaction as theoretical tools for explaining the participation of Negroes in violence.

[5] Kerr and Siegel, *op. cit.*

[6] W. Kornhauser, *op. cit.*; and Leon Bramson, *The Political Context of Sociology* (Princeton, N.J: Princeton University Press, 1961), p. 72.

[7] W. Kornhauser, *op. cit.*

[8] E.g., Neal and Seeman found that isolated workers (non-participants in unions) were more likely to feel powerless to effect outcomes in the society than the participants in unions (Arthur G Neal and Melvin Seeman, "Organizations and Powerlessness: A Test of the Mediation Hypothesis," *American Sociological Review*, XXIX [1964], 216–26).

[9] John E. Horton and Wayne E. Thompson, "Powerlessness and Political Negativism: A Study of Defeated Local Referendums," *American Journal of Sociology*, LXVII (1962), 485–93. For another report on the same study, see Wayne E. Thompson and John E. Horton, "Political Alienation as a Force in Political Action," *Social Forces*, XXXVIII (1960), 190–95.

[10] Erich Fromm, "Alienation under Capitalism," in Eric and Mary Josephson (eds.), *Man Alone* (New York. Dell Publishing Co., 1962), pp. 56–73

STUDY DESIGN AND HYPOTHESES

In the following discussion, the three independent variables of this study (isolation, powerlessness, and dissatisfaction) are discussed separately and jointly, as predictors of violence participation.

RACIAL ISOLATION

Ralph Ellison has referred to the Negro in this country as the "invisible man."[11] Although this is a descriptive characterization, sociological studies have attempted to conceptualize more precisely the isolation of the American Negro. For example, those studying attitudes of prejudice often view racial isolation as a lack of free and easy contact on an intimate and equal status basis.[12] Though the interracial contact may be frequent, it often involves such wide status differentials that it does not facilitate candid communication, nor is it likely to give the minority person a feeling that he has some stake in the system. In this paper, intimate white contact is viewed as a mediating set of relationships that binds the ethnic individual to majority-group values—essentially conservative values that favor working through democratic channels rather than violently attacking the social system. Accordingly, it is reasoned that Negroes who are more racially isolated (by low degrees of intimate contact with whites) will have fewer channels of communication to air their grievances and will feel little commitment to the leaders and institutions of the community. This group, which is blocked from meaningful white communication, should be more willing to use violent protest than the groups with greater involvement in white society.

POWERLESSNESS AND RACIAL DISSATISFACTION

In contrast to structural isolation, powerlessness and racial dissatisfaction are the subjective components of our theoretical scheme. A feeling of powerlessness is one form of alienation. It is defined in this research as a low expectancy of control over events.[13] This attitude is seen as an appropriate variable for Negroes living in segregated ghettos; that is, groups which are blocked from full participation in the society are more likely to feel powerless in that society. Powerlessness is also a variable that seems to have a logical relationship to violent protest. Briefly, it is reasoned that Negroes who feel powerless to change their position or to control crucial decisions that affect them will be more willing to use violent means to get their rights than those who feel some control or efficacy within the social system. For the Negro facing extreme discrimination barriers, an attitude of powerlessness is simply a comment on the society, namely, a belief that all channels for social redress are closed.

Our second attitude measure, racial dissatisfaction, is defined as the degree to which the individual feels that he is being treated badly because of his race. It is a kind of racial alienation in the sense that the individual perceives his position in society to be illegitimate, due to racial discrimination. The Watts violence represented an extreme expression of frustration and discontent. We would expect those highly dissatisfied with their treatment as Negroes to be the participants in such violence. Thus, the "highs" in racial dissatisfaction should be more willing to use violence than the "lows" in this attitude.

[11] Ralph Ellison, *Invisible Man* (New York: Random House, 1952).

[12] Many studies have brought forth the finding that equal status contact between majority and minority members is associated with tolerance and favorable attitudes. For the most recent evidence of the equal status proposition, see Robin Williams, *Strangers Next Door* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964). For an earlier study, see Morton Deutsch and Mary E. Collins, *Interracial Housing* (Minneapolis: University of Minnesota Press, 1951).

[13] This definition of subjective powerlessness is taken from the conceptualization proposed by Melvin Seeman, "On the Meaning of Alienation," *American Sociological Review*, XXIV (1959), 783–91.

In comparing our two forms of subjective alienation (powerlessness and racial dissatisfaction), it is important to note that, although we expect some correlation between the two attitudes (a certain amount of resentment and dissatisfaction should accompany the feeling of powerlessness), we propose to show that they make an independent contribution to violence.

UNIFICATION OF PREDICTIVE VARIABLES

We believe that the fullest understanding of violence can be brought to bear by use of a social-psychological design in which the structural variable (racial isolation) is joined with the subjective attitudes of the individual (powerlessness and dissatisfaction).

In this design, we attempt to specify the conditions under which isolation has its strongest effect upon violence. It is reasoned that racial isolation should be most important for determining participation in violence (*a*) when individuals feel powerless to shape their destiny under existing conditions or (*b*) when individuals are highly dissatisfied with their racial treatment. Each of the attitudes is seen as a connecting bridge of logic between racial isolation and violence.

For the first case (that of powerlessness), we are stating that a weak attachment to the majority group and its norms should lead to a radical break from law and order when individuals perceive they cannot effect events important to them; that is, they cannot change their racial position through activity within institutional channels. Violence, in this instance, becomes an alternative pathway of expression and gain. Conversely, racial isolation should have much less effect upon violence when persons feel some control in the system.

For the second case (racial dissatisfaction), we believe isolation should have a far greater effect upon violence when dissatisfaction over racial treatment is intense. Isolation from the society then becomes critical to violence in the sense that the dissatisfied person feels little commitment to the legal order and is more likely to use extreme methods as an outlet for his grievances. Statistically speaking, we expect an interaction effect between isolation and powerlessness, and between isolation and dissatisfaction, in the prediction of violence.[14]

METHODS

Our hypotheses call for measures of intimate white contact, perceived powerlessness, and perceived racial dissatisfaction as independent variables, and willingness to use violence as a dependent variable. The measurement of these variables, and also the sampling techniques, are discussed at this time.

SOCIAL CONTACT

The type of social contact to be measured had to be of an intimate and equal status nature, a kind of contact that would facilitate easy communication between the races. First, each Negro respondent was asked if he had current contact with white people in a series of situations: on the job, in his neighborhood, in organizations to which he belongs, and in other situations (such as shopping). After this general survey of white contacts, the respondent was asked, "Have you ever done anything social with these white people, like going to the movies together or visiting in each other's homes?"[15] The responses formed a simple dichotomous variable: "high" contact scores for those who had done something social (61 per cent of the sample) and "low" contact scores for those who

[14] In contrast to the mass society perspective, in which structural isolation is viewed as a cause of subjective alienation, we are viewing the two as imperfectly correlated. For example, many Negroes with contact (non-isolates) may still feel powerless due to racial discrimination barriers. We are thus stressing the partial independence of objective and subjective alienation and feel it necessary to consider both variables for the best prediction of violence.

[15] This question was taken from Robin Williams, *op. cit.*, p. 185.

had had little or no social contact (39 per ent).[16]

POWERLESSNESS

Following the conceptualization of Melvin Seeman, powerlessness is defined as a low expectancy of control over events.[17] Twelve forced-choice items were used to tap this attitude.[18] The majority of items dealt with expectations of control over the political system. The following is an example:

——— The world is run by the few people in power, and there is not much the little guy can do about it.

——— The average citizen can have an influence on government decisions.

After testing the scale items for reliability,[19] the distribution of scores was dichotomized at the median.

RACIAL DISSATISFACTION

The attitude of racial dissatisfaction is defined as the degree to which the individual feels he is being treated badly because of his race. A five-item scale was developed to measure this attitude. The questions ask the Negro respondent to compare his treatment (in such areas as housing, work, and general treatment in the community) with various reference groups, such as the southern Negro or the white. Each of the five questions allows a reply on one of three levels: no dissatisfaction, mild dissatisfaction, and intense dissatisfaction. Typical of the items is the following: "If you compare your opportunities and the treatment you get from whites in Los Angeles with Negroes living in the South, would you say you are much better off——— a little better off——— or treated about the same as the southern Negro———?" After a reliability check of the items, replies to the dissatisfaction measure were dichotomized into high and low groups.[20] The cut was made conceptually, rather than at the median, yielding 99 "highs" and 213 "lows" in dissatisfaction.[21]

VIOLENCE WILLINGNESS

The dependent variable of the study is willingness to use violence. Violence is defined in the context of the Watts riot as the willingness to use direct aggression against the groups that are believed to be discriminating, such as the police and white merchants. The question used to capture this outlook is, "Would you be willing to use violence to get Negro rights?" With data gathered so shortly after the Watts violence, it was felt that the question would be clearly understood by respondents.[22] At the time of data collection, buildings were still smoldering; violence in the form of looting, burning, and destruction was not a remote possibility, but a tangible reality. The violence-prone group numbered eighty-three.

[16] As a further indication that this measure was tapping a more intimate form of interracial contact, it can be noted that 88 per cent of those reporting social contact with whites claimed at least one "good friend" ("to whom you can say what you really think") or "close friend" ("to whom you can talk over confidential matters") Only 10 per cent of those lacking social contact claimed such friendships with white people

[17] Seeman, *op. cit.*

[18] The powerlessness scale was developed by Shephard Liverant, Jullian B. Rotter, and Melvin Seeman (see Jullian B. Rotter, "Generalized Expectancies for Internal vs. External Control of Reinforcements," *Psychological Monographs*, LXXX, No 1 [Whole No. 600, 1966], 1–28).

[19] Using the Kuder-Richardson test for reliability, a coefficient of .77 was obtained for the twelve items

[20] Kuder-Richardson coefficient of .84.

[21] With a cut at the median, a good many people ($N = 59$) who were mildly dissatisfied on all five items would have been placed in the "high" category It was decided that a more accurate description of the "high" category would require the person to express maximum dissatisfaction on at least one of the five items and mild dissatisfaction on the other four.

[22] As an indication that the question was interpreted in the context of participation in violence of the Watts variety, it can be noted that our question was correlated with approval of the Watts riot ($\phi = .62$).

A second measure of violence asked the person if he had ever used violent methods to get Negro rights.[23] Only sixteen respondents of the 312 reported (or admitted) that they had participated in actual violence. As a result of this very small number the item is used as an indicator of trends but is not employed as a basic dependent variable of the study.

SAMPLE

The sample was composed of three-hundred-twelve Negro males who were heads of the household and between the ages of eighteen and sixty-five. The subjects responded to an interview schedule administered by Negro interviewers. They were chosen by random methods and were interviewed in their own homes or apartments. Both employed and unemployed respondents were included in the sample, although the former were emphasized in the sampling procedure (269 employed in contrast to 43 unemployed). The sample was drawn from three major areas of Los Angeles: a relatively middle-class and integrated area (known as the "Crenshaw" district) and the predominantly lower-class and highly segregated communities of "South Central" and "Watts." The sample could be classified as "disproportional stratified" because the proportion of subjects drawn from each of the three areas does not correspond to the actual distribution of Negroes in Los Angeles. For example, it was decided that an approximate fifty-fifty split between middle- and lower-class respondents would be desirable for later analysis. This meant, however, that Crenshaw (middle-class) Negroes were considerably overrepresented, since their characteristics are not typical of the Los Angeles Negro community as a whole, and the majority of Los Angeles Negroes do not reside in this, or any similar, area.

TABLE 1

PERCENTAGE WILLING TO USE VIOLENCE, BY SOCIAL CONTACT, POWERLESSNESS, AND RACIAL DISSATISFACTION

Variables	Not Willing (%)	Willing (%)	Total (%)
Social contact *			
High	83	17	100 ($N=192$)
Low	56	44	100 ($N=110$)
Powerlessness: †			
High	59	41	100 ($N=145$)
Low	84	16	100 ($N=160$)
Racial dissatisfaction ‡			
High	52	48	100 ($N=98$)
Low	83	17	100 ($N=212$)

* $\chi^2 = 24.93$, $P < .001$.
† $\chi^2 = 22.59$, $P < .001$.
‡ $\chi^2 = 30.88$, $P < .001$.
NOTE.—In this table and the tables that follow, there are often less than 312 cases due to missing data for one or more variables.

RESULTS

We have predicted a greater willingness to use violent methods for three groups: the isolated, the powerless, and the dissatisfied. The data presented in Table 1 confirm these expectations. For all three cases, the percentage differences are statistically significant at better than the .001 level.

The empirical evidence supports our contention that Negroes who are more disengaged from the society, in the structural (isolation) and subjective (powerlessness and racial dissatisfaction) senses, are more likely to view violence as necessary for racial justice than those more firmly tied to the society.

It is one thing to establish a relationship based on action willingness and quite another thing to study actual behavior. Unfortunately, only sixteen of the 312 respondents (5 per cent) admitted participation in violent action for Negro rights. This small number did, however, provide some

[23] The question, "Have you ever participated in violent action for Negro rights?" was purposely worded in general terms to avoid accusing the respondent of illegal behavior during the Watts violence. However, racial violence in the United States was somewhat rare at that time, so it is likely that most of the sixteen respondents were referring to participation in the Watts violence.

basis for testing our hypotheses. Of the sixteen who participated in violent action, eleven were isolates while only five had social contact. More impressive is the fact that fifteen of the sixteen "violents" scored high in powerlessness, and thirteen of the sixteen felt high degrees of dissatisfaction. Even with a small number, these are definite relationships, encouraging an interpretation that those who are willing to use violence and those who reported actual violent behavior display the same tendency toward powerlessness, racial dissatisfaction, and isolation.

The next task is to explore the interrelationships among our predictive variables. For example, we have argued that powerlessness has a specific meaning to violence (a low expectancy of changing conditions within the institutional framework) that should be more than a generalized disaffection; that is, we expected our measures of powerlessness and racial dissatisfaction to have somewhat unique effects upon violence.

The data indicated an interaction effect (interaction $\chi^2 = 7.85$; $P < .01$)[24] between the two attitudes. The feeling of powerlessness is a more relevant determiner of violence for the highly dissatisfied or angry Negro. Similarly, racial dissatisfaction is far more important to violence for those who feel powerless. In sum, the data suggest that the powerless Negro is likely to use violence when his feelings of powerlessness are accompanied by intense dissatisfaction with his position. It can be noted, however, that, even among those who were relatively satisfied with racial conditions, powerlessness had some effect upon violence (a 13 per cent difference, $\chi^2 = 5.41$; $P = .02$). Presumably, a low expectancy of exerting control has a somewhat unique effect upon violence.

As a second way of noting an interrelationship between our predictive variables, we turn to the more crucial test of the isolation-extremism perspective in which the effect of racial isolation upon violence is controlled by powerlessness and dissatisfaction.[25] It will be recalled that we expected the isolated people (with a lower commitment to democratic norms and organized channels) to be more violence-prone when these isolated individuals perceive they cannot shape their destiny within the institutional framework (high powerlessness) or when they perceive differential treatment as Negroes and, as a result, are dissatisfied. It is under these subjective states of mind that a weak attachment to the majority group would seem to be most important to extremism. Table 2, addressed to these predictions, shows our hypotheses to be strongly supported in both cases.

Among the powerless and the dissatisfied, racial isolation has a strong effect upon violence commitment. Conversely, the data show that isolation is much less relevant to violence for those with feelings of control in the system and for the more satisfied (in both cases, significant only at the 20 level).[26]

The fact that isolation (as a cause of violence) produces such a small percentage difference for the less alienated subjects calls for a further word of discussion. Ap-

[24] The χ^2 interaction test is somewhat analogous to the interaction test in the analysis of variance. A total χ^2 is first computed from the two partial tables in which all three variables are operating. Second, χ^2 values are obtained by cross-tabulating each possible pair of variables (e.g., χ^2AB, χ^2AC, and χ^2BC). These three separate χ^2 values are then summed and subtracted from the total χ^2. The residual, or what is left after subtraction, is the interaction χ^2. It can be viewed as the joint or special effect that comes when predictive variables are operating simultaneously. For a further description of this measure, see Phillip H. DuBois and David Gold, "Some Requirements and Suggestions for Quantitative Methods in Behavioral Science Research," in Norman F. Washburne (ed.), *Decisions, Values and Groups* (New York: Pergamon Press, 1962), II, 42-65.

[25] The independent variables are moderately intercorrelated. For isolation and powerlessness, the ϕ correlation is .36, $P < .001$; for isolation and dissatisfaction, the ϕ is .40, $P < .001$; for powerlessness and dissatisfaction, the ϕ is .33, $P < .001$.

[26] The .05 level is considered significant in this analysis.

parently, isolation is not only a stronger predictor of violence for the people who feel powerless and dissatisfied, but is *only* a clear and significant determiner of violence for these subjectively alienated persons. For the relatively satisfied and control-oriented groups, the fact of being isolated is not very important in determining violence. This would suggest that a weak normative bond to the majority group (isolation) is not in itself sufficient to explain the participation of the oppressed minority person in violence and that it is the interaction between isolation and feelings of powerlessness (or racial dissatisfaction) that is crucial for predicting violence.

A final attempt at unification involves the cumulative effect of all three of our predictive variables upon violence. Since it was noted that each of the three predictive variables has some effect upon violence (either independently or for specific subgroups), it seemed logical that the combined effect of the three would produce a high violence propensity. Conceptually, a combination of these variables could be seen as ideal types of the alienated and non-alienated Negro. Accordingly, Table 3 arranges the data into these ideal-type combinations.

TABLE 2

PERCENTAGE WILLING TO USE VIOLENCE, BY SOCIAL CONTACT CONTROLLING FOR POWERLESSNESS AND RACIAL DISSATISFACTION

	Percentage Willing To Use Violence			
	Low Powerlessness (%)	High Powerlessness (%)	Low Dissatisfaction (%)	High Dissatisfaction (%)
Low contact	23 ($N=31$)	53 ($N=78$)	23 ($N=47$)	59 ($N=63$)
High contact	13 ($N=123$)	26 ($N=66$)	15 ($N=158$)	26 ($N=34$)
χ^2	$P<$ 20	$P<.01$	$P<$ 20	$P<$ 01

NOTE.—The interaction χ^2 between powerlessness and contact. $P < .05$. The interaction χ^2 between dissatisfaction and contact: $P < .01$.

TABLE 3

PERCENTAGE WILLING TO USE VIOLENCE, BY THE COMBINED EFFECT OF SOCIAL CONTACT, POWERLESSNESS, AND RACIAL DISSATISFACTION

	Not Willing (%)	Willing (%)	Total (%)
Ideal-type alienated (low contact, high powerlessness, and high dissatisfaction)	35	65	100 ($N=51$)
Middles in alienation	76	24	100 ($N=147$)
Ideal-type non-alienated (high contact, low powerlessness, and low dissatisfaction)	88	12	100 ($N=107$)

NOTE.—$\chi^2 = 49$ 37; $P <$ 001 (2 d f).

The group at the top of the table represents the one most detached from society—individuals who are isolated and high in attitudes of powerlessness and dissatisfaction. The group at the bottom of the table is the most involved in the society; these people have intimate white contact, feelings of control, and greater satisfaction with racial conditions. The middle group is made up of those with different combinations of high and low detachment. Note the dra-

matic difference in willingness to use violence between the "ideal-type" alienated group (65 per cent willing) and the group most bound to society (only 12 per cent willing). The "middles" in alienation display a score in violence between these extremes.

SPURIOUSNESS

It is possible that the relationship between our predictive variables and violence is due to an intercorrelation with other relevant variables. For example, social class should be related both to violence and to our isolation-alienation measures. In addition, we could expect a greater propensity toward violence in geographical areas where an extreme breakdown of legal controls occurred, such as the South Central and Watts areas (in contrast to the Crenshaw area, where no rioting took place). In such segregated ghettos, violence may have been defined by the inhabitants as a legitimate expression, given their intolerable living conditions, a group definition that could override any effects of isolation or alienation upon violence. In short, it seems essential to control our isolation-alienation variables by an index of social class and by ghetto area.[27]

Because of the rather small violent group, it is necessary to examine our predictive variables separately in this analysis of controls. Table 4 presents the original relationship between each of the independent variables and violence, controlled by two areas of residence: the South Central–Watts area, at the heart of the curfew zone (where violence occurred), and the Crenshaw area, on the periphery (or outside) of the curfew zone (where violent action was rare). In addition, Table 4 includes a control for education, as a measure of social class.[28]

TABLE 4

PERCENTAGE WILLING TO USE VIOLENCE BY CONTACT, POWERLESSNESS, AND RACIAL DISSATISFACTION, CONTROLLING FOR TWO GEOGRAPHICAL AREAS AND EDUCATION

Independent Variables	Neighborhood		Education	
	South Central–Watts	Crenshaw	Low (High School or Less)	High (Some College)
Low contact	53** (N=62)	33** (N=45)	52** (N= 77)	24* (N= 33)
High contact	27 (N=83)	10 (N=109)	26 (N= 86)	10 (N=105)
Low powerlessness	22** (N=73)	11* (N= 88)	19** (N= 67)	14 (N= 93)
High powerlessness	55 (N=77)	25 (N= 68)	51 (N=100)	18 (N= 45)
Low dissatisfaction	26** (N=81)	12** (N=130)	22** (N= 96)	12 (N=114)
High dissatisfaction	53 (N=68)	39 (N= 28)	59 (N= 73)	17 (N= 24)

* $P < .05$. ** $P < .01$.

NOTE.—Interaction χ^2 between contact and neighborhood P is not significant. Interaction χ^2 between powerlessness and neighborhood $P < .02$. Interaction χ^2 between dissatisfaction and neighborhood P is not significant. Interaction χ^2 between contact and education P is not significant. Interaction χ^2 between powerlessness and education $P < .02$. Interaction χ^2 between dissatisfaction and education $.05 < P < .10$.

When the ghetto residence of the respondent is held constant, it appears that our independent variables are important in their own right. Education (social class),

[27] Age was also considered as a control variable but was dropped when it was discovered that age was not correlated with violence or the independent variables. The r's ranged from .04 to .09.

[28] For this sample, education was believed to be superior to other indexes of class. It is an index that is freer (than either occupation or income) from the societal restrictions and discrimination that Negroes face. Also, it was discovered that Negro occupations in the more deprived ghetto areas were not comparable to the same occupations listed in standardized scales, such as the North-Hatt or Bogue scales.

however, proved to be a more powerful control variable. Among the college educated, only isolation persists as a predictor of violence; powerlessness and racial dissatisfaction virtually drop out. Yet each variable has a very strong effect upon violence among the high school (lower-class) group. In other words, we do not have an instance of spuriousness, where predictive variables are explained away in both partials, but another set of interaction effects —attitudes of powerlessness and dissatisfaction are predictors of violence only among lower-class respondents. These results may be interpreted in several ways. Persons higher in the class structure may have a considerable amount to lose, in terms of occupational prestige and acceptance in white society, by indorsing extreme methods. The college educated (middle class) may be unwilling to risk their position, regardless of feelings of powerlessness and dissatisfaction. These results may further indicate that middle-class norms favoring diplomacy and the use of democratic channels (as opposed to direct aggression) are overriding any tendency toward violence.[29] An extension of this interpretation is that middle-class Negroes may be activists, but non-violent activists, in the civil rights movement. Thus, class norms may be contouring resentment into more organized forms of protest.

CONCLUSIONS

In an attempt to locate the Negro participant in violence, we find that isolated Negroes and Negroes with intense feelings of powerlessness and dissatisfaction are more prone to violent action than those who are less alienated. In addition, isolation has its strongest effect upon violence when individuals feel powerless to control events in the society or when racial dissatisfaction is intensely felt. For those with higher expectations of control or with greater satisfaction regarding racial treatment, isolation has a much smaller and nonsignificant effect (though in the predicted direction) upon violence. That is, a weak tie with the majority group, per se, appeared insufficient to explain wide-scale participation in extreme action. This study indicates that it is the interaction between a weak bond and a feeling of powerlessness (or dissatisfaction) that is crucial to violent participation.

Viewed another way, the combined or tandem effect of all three predictive variables produces an important profile of the most violence-prone individuals. Negroes who are isolated, who feel powerless, and who voice a strong disaffection because of discrimination appear to be an extremely volatile group, with 65 per cent of this stratum willing to use violence (as contrasted to only 12 per cent of the "combined lows" in alienation).

Ghetto area and education were introduced as controls. Each independent variable (taken separately) retained some significant effect upon violence in two geographical areas (dealing with proximity to the Watts violence) and among the less educated respondents. Powerlessness and dissatisfaction, however, had no effect upon violence among the college educated. Several interpretations of this finding were explored.

Applying our findings to the context of the Negro revolt of the last fifteen years, we note an important distinction between the non-violent civil rights activists and the violence-prone group introduced in this study. Suggestive (but non-conclusive) evidence indicates that the participants in organized civil rights protests are more likely to be middle class in origin, to hold considerable optimism for equal rights, and to have greater communication with the majority—this represents a group with "rising expectations" for full equality.[30] In

[29] For a discussion of class norms, see Lipset, *op. cit.*

[30] See Ruth Searles and J. Allen Williams, Jr., "Negro College Students' Participation in Sit-ins," *Social Forces*, XL (1962), 215–20; H. Edward Ransford, *Negro Participation in Civil Rights Ac-*

contrast, this study located a very different population—one whose members are intensely dissatisfied, feel powerless to change their position, and have minimum commitment to the larger society. These Negroes have lost faith in the leaders and institutions of the community and presumably have little hope for improvement through organized protest. For them, violence is a means of communicating with white society; anger can be expressed, control exerted—if only for a brief period.

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tivity and Violence (unpublished Ph D dissertation, University of California, Los Angeles, 1966); and Pearl M. Gore and Jullian B. Rotter, "A Personality Correlate of Social Action," *Journal of Personality*, XXXVII (1963), 58–64.

Issues in Multiple Regression[1]

Robert A. Gordon

ABSTRACT

Controlling for variables implies conceptual distinctness between the control and zero-order variables. However, there are different levels of distinctness, some more subtle than others. These levels are determined by the theoretical context of the research Failure to specify the theoretical context creates ambiguity as to the level of distinctness, and leads to the partialling fallacy, in which one controls for variables that are not distinct in terms of appropriate theory. Although this can occur in using any control procedure, it is especially likely to occur in multiple regression, where high-order partial regression coefficients are routinely obtained in order to determine the relative importance of variables. Four major ways in which these regression coefficients can be seriously misleading are discussed. Although warnings concerning multicollinearity are to be found in statistics texts, they are insufficiently informative to prevent the mistakes described here. This is because the problem is essentially one of substantive interpretation rather than one of mathematical statistics per se.

The use of control variables is now a hallmark of sophisticated research. That this is so is due mainly to Kendall and Lazarsfeld's classic 1950 paper on partialling with categoric data, and to computers, which have removed restraints on calculating partials of almost any practical order, particularly for continuous data.[2] However, there is a fallacy in the uncritical use of partials that is easy to commit and which becomes more likely the higher the order of the partial. The purpose of this paper is to describe this fallacy and how it operates, especially in multiple regression, the case evidently most in need of clarification.

THE PARTIALLING FALLACY

The introduction of a control variable into a relationship always implies a theoretical context, although in practice the context itself is often left unspecified. When experienced researchers fail to state the theoretical context explicitly, it is because they feel that it is sufficiently obvious. Often, they are right. Some researchers, however, have been misled by this silence, and they are unaware of how necessary it is to be conscious of the theoretical implications underlying any use of control variables. As though to emphasize this aspect of partialling, Kendall and Lazarsfeld referred to the control variable as the "test" variable. This clearly implied that a hypothesis was being tested, and thereby that a theory, however modest, was being invoked. Some researchers, however, engage

[1] Work on this paper was supported by research grant MH 10698-01, from the National Institute of Mental Health The present version was part of a longer paper, "Issues in Multiple Regression and the Ecological Study of Delinquency" (Department of Social Relations, Johns Hopkins University, 1966), the remainder of which appeared in the *American Sociological Review* for December, 1967, under the title, "Issues in the Ecological Study of Delinquency." Readers interested in detailed substantive examples of points made in the present paper may wish to consult that paper Concerning the material covered here, the author is grateful to the following Johns Hopkins University colleagues, with whom valuable discussions were held at one time or another. Leon J. Gleser and Joseph L. Gastwirth, Department of Statistics; Carl F. Christ, Department of Political Economy; and Arthur L. Stinchcombe, E. O. Schild, and James Fennessey, Department of Social Relations. This paper has also benefited from helpful comments made by the referees.

[2] Patricia L. Kendall and Paul F. Lazarsfeld, "Problems of Survey Analysis," *Continuities in Social Research; Studies in the Scope and Method of "The American Soldier,"* ed. Robert K. Merton and Paul F. Lazarsfeld (Glencoe, Ill.: Free Press, 1950), pp. 133–96.

in what is actually atheoretical partialling, as though the only hypothesis to be tested were the purely statistical one of whether the zero-order relationship could survive the application of any conceivable control.

The object, of course, is not simply to destroy an observed relationship but, rather, to see whether it can be destroyed by controlling for a variable that has been hypothesized to be potentially relevant and conceptually distinct within the theoretical context in which one has chosen to operate. Without a theory, however, there is no way of telling what is conceptually distinct and what is not. Consequently, variables are often introduced as controls that are not meaningfully different in terms of what would constitute an appropriate theory.[8] So closely do these variables approach being identical with one of the variables already in the zero-order relationship that controlling for them becomes tantamount to partialling that relationship out of itself.

An investigator studying the effect of socioeconomic status (SES) on delinquency, for example, could argue that median education *is* different from median rent and that it *is* reasonable to examine the relationship between either variable and delinquency free of the effects of the other variable. This is true as far as it goes, but it implies an extremely narrow and highly specialized theoretical focus. This smaller question should not be confused with a hypothesis concerning the relationship between SES and delinquency when one has two or more equally valid indicators of SES. Although one might wish to inspect for some reason the partial correlations between quantitative ability and verbal ability, on the one hand, and academic achievement, on the other, this would be a poor way to test whether ability in general is related to academic achievement. Clearly, partialling implies distinctness between the control and zero-order variables, but as each of these two examples shows, for a given set of data there can be different levels of distinctness. On one level education and rent are indistinguishable as indexes of SES; on another level they are two different variables with somewhat different properties and significance. If in working with these variables the theoretical context is left implicit, the investigator may find that he has committed himself to a theory—or to a level of distinctness—that he did not intend and that he would not support upon deeper consideration.

The fact that theory is quite undeveloped in his area does not excuse the researcher from deciding which of these major directions he wishes his readers to follow in understanding his results. Even an explicit postponement of the decision is preferable to an ambiguous presentation that could be construed either way. All too often, investigators are so unclear in their own minds why they are partialling that it is impossible to determine their intended level of distinctness. In this way they enjoy the methodological security of the microscopic level in that one is always entitled to examine a partial if he wishes—while leaving their readers with impressions concerning the macroscopic level. Should attention be called to their indiscriminate partialling, they are apt to find themselves suddenly

[8] Disputes over variables left uncontrolled can also result from this absence of explicit theory. One party may define a variable globally, for example, "urbanism," so that it includes the variables typically correlated with living in a city, such as higher income and education, and therefore not control for the latter, whereas others may construe "urbanism" as a state of mind independent of income and education. Failure of the first party adequately to define urbanism in his study will precipitate attacks by the others on his omission of "obvious" controls. Actually the entire dispute would be over a matter of definition entirely, and it should be conducted, if at all, on the semantic-esthetic theoretical level and not on the methodological level. Fear of being so attacked serves as an incentive for controlling everything the investigator can lay hold of, whether appropriate or not, when the appropriate remedy would be for him to specify clearly the working theory that is guiding his research. These working theories can legitimately be quite modest—indeed, given the state of social science, they can hardly avoid being modest. We suspect that unwarranted embarrassment over their modesty keeps investigators from more often formulating working theories explicitly.

convinced that they had intended the narrower focus all along. Naturally, potential critics of such studies are reluctant to take a stand when the question of whether there is even an issue is itself so slippery. Consequently, sociology that is conceptually blurred accumulates, unchallenged, in the literature.

A somewhat more subtle version of the partialling fallacy is likely to be committed in multivariate studies that present all of the possible highest-order partials between each one of a large set of independent variables and the same dependent variable. Apparently, this practice also draws inspiration from Kendall and Lazarsfeld, although the procedures they advocated are actually quite different in logic. Kendall and Lazarsfeld's procedures *assume* knowledge concerning the presumed causal priority of the variables—they are not intended to provide that knowledge. Roughly, they address the question, "Is variable *A* causally prior to *B*, or is it irrelevant?" and not the question, "Is variable *A* causally prior to *B*, or is *B* causally prior to *A*?" Yet it appears to be the latter question that is being posed when researchers calculate all possible highest-order partials to see which variable will emerge with the largest partial. Nothing in the Kendall and Lazarsfeld paper justifies using each independent variable in turn as a test variable for each other independent variable.

For one thing, the outcome of such a procedure is strongly influenced by small sampling or measurement errors when the independent variables are themselves highly correlated.[4] Moreover, the "intervening variable" and "spurious correlation" interpretations are not the only ones possible when covariation proves controllable by introducing a third variable. The choice between these two standard interpretations depends upon the causal ordering of the variables: whether the test variable is understood to be causally intermediate between the zero-order variables or whether it is antecedent to both of them. A third possibility, that it is to some degree causally *identical* with one of them, is completely overlooked in the classic discussions of partialling. Probably this is because no one expects researchers to employ such a variable as a control. That they might unwittingly do so fails to be anticipated. Yet, given that typical validities and reliabilities of social science measures are in the neighborhood of .70 and .85, respectively, for instruments constructed so as to *maximize* these values, it is not surprising that the factorial and causal equivalence of variables sometimes goes unrecognized when the correlations between them are generally lower than these.

When two variables are equivalent, they will both be equally valid to some degree, and controlling for one of them amounts to controlling for valid covariation. This makes as much sense as controlling for a parallel form of the same instrument. The presentation of all possible highest-order partials is a sure indication that the researcher has not thought through the theoretical connections among his variables. Once embarked upon, such a mechanical procedure is quite apt to lead him to control for variables whose covariation is largely valid.

Finally, there is no statistical rule for attributing controlled covariation to the influence of one rather than another of the independent variables, regardless of the disparity in size between their partial correlations. The question (of whether variable *A* is prior to *B* or *B* is prior to *A*) is simply not answerable by this means.

An important property of the procedure of obtaining all possible highest-order partials is that the variables emerging with the largest partials will be those that are least redundantly represented. Conceivably, these could even be the variables that show the poorest zero-order associations with the common dependent variable. In such a case, an investigator is apt to conclude that his sophisticated statistical analysis has un-

[4] For an excellent discussion of this point, see H. M. Blalock, Jr., "Correlated Independent Variables: The Problem of Multicollinearity," *Social Forces*, XLII (December, 1963), 233–37.

covered the true importance of a variable that was otherwise obscured by the more superficial zero-order associations. Actually, nothing could be further from the truth. There is nothing more fundamental about a partial, as compared to a zero-order association, unless a good theory makes it so. The reasoning we are criticizing, for example, is reduced to the absurd when we realize that one could calculate all of the highest-order partials among the variables of a highly interrelated set and erroneously conclude, when the low partials fail to be significantly different from zero, that none of them was related to any other one.

Although the temptation to commit the partialling fallacy is greater in the case of continuous data—where it is more convenient to obtain partials of a high order—it should be emphasized that all control procedures are equally susceptible, including those for categoric data and for experiments.

SOME UNAPPRECIATED ASPECTS OF MULTIPLE REGRESSION

When employing measures of association, investigators will calculate all possible highest-order partials for a given dependent variable only some of the time. Multiple regression, however, which is very popular in sociology, leads to highest-order partials automatically and invariably. For this reason, multiple regression is extremely susceptible to the partialling fallacy. Even worse, it is possible to commit this fallacy in a number of different ways in multiple regression, and because the partial regression coefficient is more difficult to understand intuitively than the partial correlation coefficient, these ways tend to be even more insidious. In the main body of this paper, we shall show in detail how this comes to be. But first, a few general remarks about the partial regression coefficient.

We have indicated that, to the degree the variables of a set are highly interrelated, numerous, and conceptually similar, we approach being able to produce a very small partial correlation between any two of them by controlling for the rest. Similar circumstances affect the partial regression coefficient in nearly the same way. This comes about as follows.

As redundant independent variables are successively introduced into a regression problem, their common predictive value gets averaged, in a weighted manner, over all of their regression coefficients. As a result, all of their regression coefficients decline in absolute value. At the same time, the multiple correlation increases only a trivial amount with each new variable, reflecting the fact that little new information is being added; that the multiple correlation cannot decrease indicates that the common predictive value is conserved, although it does get spread out over more and more regression coefficients, each becoming smaller and smaller as new redundant variables are fed into the problem.

Continuing with our examination of the regression coefficient, we note that, if at any point a new variable is added that is uncorrelated with previous independent variables, then the regression coefficients of the previous variables will be unaffected. Of course, it would be possible to then add more variables that are redundant with respect to this new variable but not redundant with respect to the earlier set, so that the regression coefficient of the new variable is reduced, but not the regression coefficients of the earlier variables.

The argument developed above helps us to realize that among the independent variables there could occur two or more subsets of variables, the members of which were redundant (strongly correlated) with variables in their own subsets but relatively independent (weakly correlated) with respect to variables in other subsets. It becomes immediately apparent that, under these circumstances, the relative size of a variable's regression coefficient depends to a considerable extent upon the *number* of other variables in its subset. And if all variables were redundant to the same degree with others in their subset, unrelated to the same degree with variables in other subsets, and all were equally related to the depend-

ent variable, then differences in the size of the regression coefficients between the variables of one subset and those of another subset would depend entirely upon the relative numbers of variables in the two subsets.

These conditions are, of course, quite special. However, they serve to bring into sharp relief processes that operate as well in the analysis of real data. In conjunction with these conditions, there are three others that also affect the regression coefficient. The main sections of this paper are devoted to illustrating all of these effects.

The problems we are about to discuss are usually alluded to in statistics texts under the heading of "multicollinearity." However, discussions of multicollinearity in statistical texts tend to be tantalizingly brief. Typically, they emphasize only that as independent variables become closely related the standard errors of regression coefficients become extremely large, leading to estimates of the regression coefficients that are unstable and hence unlikely to reappear even approximately in another sample from the same population.[6] Often, mention is made also of the fact that perfect correlation between two or more variables makes it impossible to solve the normal equations uniquely (or to invert the correlation matrix) and that, to the extent lack of perfect correlation is purely the result of random error, the entire solution is simply a spurious reflection of that error. (With double-precision computer arithmetic, rounding or truncation errors are no longer the problem they once were.) Both of these undesirable outcomes require extremely high correlations between independent variables. The effects that concern us here, however, can be produced as well by lower degrees of intercorrelation between predictor variables, and their main influence happens not to be exerted through the standard error of the regression coefficient. Statistics texts focus upon conditions of extremely high correlation because it is at that point that the resulting problems become most nearly *statistical* ones. The issues discussed in this paper, however, are basically substantive in nature. Consequently, although continuous with the problem of multicollinearity as treated in statistical texts, they are not of statistical interest per se, and therefore they are not adequately treated in any statistical source known to us. Persons sophisticated in statistics are quick to recognize this continuity, and they typically respond with a shrug when it is brought to their attention. However, we have known occasions when sophisticated consultants have advised clients to adopt procedures that lead to the very errors in multiple regression that this paper warns against, simply because the consultants were insensitive to the substantive implications of the problems brought to them. Since it is difficult to communicate complex problems to consultants so that they are alerted to all relevant implications, it is important that consumers of statistical advice be made aware of common pitfalls. Consultants, too, might benefit from having the following issues made more salient.

To help distinguish between the different effects to be discussed, we shall hereafter use the term "redundancy" to refer to *high correlation* between two or more independent variables, regardless of the exact number of variables, and the term "repetitiveness" to refer to the *number* of redundant independent variables, regardless of the degree of redundancy. This will enable us to emphasize either aspect of the situation, as necessary, in attempting to demonstrate just how, for one thing, multicollinearity operates.

The effect of differential repetitiveness.—In Table 1 we have created three correlation matrixes designed to display some of the

[6] In sociology, Blalock has devoted more attention to this problem than anyone else (*ibid.*). Numerous other references to multicollinearity appear in his *Causal Inferences in Nonexperimental Research* (Chapel Hill: University of North Carolina Press, 1964). See especially pp. 48, 66–67, and 87 ff., for comments relevant to this paper's concerns. Other helpful warnings are to be found in Edward E. Cureton, "Validity," *Educational Measurement*, ed. E. F. Lindquist (Washington, D.C.: American Council on Education, 1951), pp. 690–93.

properties to which we refer. These matrixes include independent variables only. The first one, matrix A, illustrates the effect of unequal repetitiveness on the regression coefficient. All five of the independent variables constituting matrix A are equally good predictors, one at a time, of the dependent variable, in that all correlate .60 with that variable. All are redundant to the same degree, .80, with others in their subset, and are unrelated to the same degree, .20, with those of the other subset. However, one subset contains three variables, and the other contains only two variables. The effect of this inequality is to create a substantial difference between the standardized regression coefficients of the two subsets; this difference is produced entirely by the difference in density of sampling between the two domains of content implied by the two subsets[4] Obviously, it cannot be attributed in any meaningful sense to the relative importance of the variables when we do not even know what these variables are and when they all have exactly the same correlation with the dependent variable.

In the last three columns of Table 1 we present the standard errors of the regression coefficients, based upon a hypothetical sample size of 100, and the associated t-tests of the hypothesis that each regression coefficient is equal to zero. These standard errors, based on a reasonable sample size, are not unduly large, and there is little difference between the standard errors of the two subsets. However, the t-tests for the subset of three fail to reach significance, whereas those for the subset of two are significant. This outcome, again, is due entirely

TABLE 1

THE EFFECTS OF DIFFERENTIAL REPETITIVENESS (BASED ON HYPOTHETICAL SAMPLES OF 100)

Example	Correlations between Independent Variables								r_{yi}	b_{yi}	$s_{b_{yi}}$	t	$p <$
Matrix A:		8	8	2	.2				6	19	11	1.71	N.S.
Subsets of	.8	.	.8	.2	.2				6	.19	11	1 71	N S.
3 and 2	8	8		2	2				6	19	11	1 71	N.S.
	2	2	2		8				6	27	.10	2 70	.01
	2	2	2	8					6	27	10	2 70	01
Matrix B:	.	8	8	2	2	2			6	16	08	1 95	N.S.
Subsets of	.8		.8	2	2	2			6	16	08	1 95	N S
3, 2, and 1	8	8		2	2	2			6	16	08	1 95	N.S.
	2	.2	2		8	2			6	23	07	3 13	01
	.2	2	.2	8		2			6	23	07	3 13	.01
	.2	2	.2	.2	2				6	41	05	9 03	001
Matrix C:		8	8	8	2	2	2	2	6	12	09	1 41	N S.
Subsets of	8		8	8	2	2	2	2	6	12	09	1 41	N S
4, 3, and 1	8	8		8	2	2	2	2	6	12	09	1 41	N S.
	8	8	8		2	2	2	2	6	12	09	1 41	N.S
	.2	2	2	2		8	8	2	6	16	08	1 97	N S.
	2	.2	2	2	8		8	2	6	16	08	1 97	N S.
	2	2	2	2	8	8		2	6	16	08	1 97	N S.
	.2	2	2	2	2	2	2		6	40	05	8 83	001

Note —Multiple correlations, when r_{yi} = 6 for Matrix A, R = 815, Matrix B, R = 906, Matrix C, R = 910 The t-tests are based on more decimal places than are shown in the table.

[4] All of the regression coefficients discussed in this paper are standardized ones. Often, such β weights are accompanied by an asterisk, but since there can be no confusion on this point, we omit the asterisk.

to the difference in density of sampling variables, and it comes about mainly through the difference in the magnitude of the regression coefficients rather than through the slight difference in their standard errors.

Matrix B illustrates the effect of adding a third subset containing only one variable. Because this one variable is not repetitive with any other, its regression coefficient is much larger than the rest, although it, too, is no more strongly correlated with the dependent variable than any other variable. The results of the *t*-tests follow accordingly. Since this new variable is not redundant with variables of the other two subsets, their regression coefficients are hardly affected by its presence. An incidental effect of the new variable is to raise the multiple correlation from .815, for matrix A, to .906, for matrix B; and the slight decrease in the size of the standard errors from their values for matrix A results from this improvement in the multiple correlation. It is true here that the standard error of the new variable is approximately only half the size of the standard errors of the other variables; however, the fact that the regression coefficients of the subset of three are not significant again, whereas those for the subset of two are significant still, is determined far more by the relative size of the regression coefficients than by the relative size of the standard errors. Both the effect on the standard error and on the regression coefficient favor the statistical significance of the less repetitive variables, but it is the regression coefficient, of course, upon which interpretations of relative importance are based, statistical considerations aside.

Matrixes A and B, with their subsets of unequal numbers of equally good predictors, demonstrate that if a particular construct, such as socioeconomic status, is represented by many variables, and another construct by one or a few variables, the predictive value of SES would be spread thinly over several regression coefficients, while the predictive value of the other construct would be concentrated in only one or two coefficients, thus giving the impression that the SES variables were less strongly related to the dependent variable than the variables representing the second construct.[7] Under circumstances such as these, it could even happen that the regression coefficients of the construct having the *weaker* relationship with the dependent variable would attain statistical significance when the remainder did not, simply as a result of its being less repetitively represented. For example, in matrix C of Table 1, the correlation between the eighth variable (a subset of one) and the dependent variable could drop as low as .40, and it would still yield a significant regression coefficient of .187, which would be higher than those associated with variables accounting for more than twice as much of the dependent variable's variance. The regression coefficients of each of the first four variables would equal, in this case, .133, and of each of the next three variables, .174.

Ironically, the more important domain, in terms of total predictive value, is apt to be the one that is repetitively oversampled, both because its effects are likely to be more pervasive and because researchers will be inclined to devote more attention to it. The outcome of reducing the correlation between just the eighth variable and the dependent variable in matrix C to .40 indicates, equally

[7] An example of this effect is discussed in Gordon, "Issues in the Ecological Study of Delinquency," *op. cit.* (n. 1 above). It is drawn from a study by Bernard Lander in which *four* SES variables were included with *two* supposed anomie variables (see his *Towards an Understanding of Juvenile Delinquency* [New York: Columbia University Press, 1954]). Within the SES subset, the average absolute correlation was .77; within the anomie subset, it was .76. Redundancy within sets was thus nearly identical. The intrasubset correlations in our examples are intended to approximate these values. Although the absolute correlations between Lander's two subsets averaged .53, rather than the .20 for matrix A, this stronger relation between his subsets, if substituted into matrix A, would reduce the difference between the two sets of regression coefficients in our example by only 34 per cent. This tendency in Lander's matrix toward reduction in contrast, moreover, is offset by the greater repetitiveness within his larger subset, which contained four variables instead of the three in the larger subset of matrix A.

ironically, that odds-and-ends type variables of less consequence—included perhaps more because they happened to be at hand than because of their theoretical relevance—could then appear to be the more important.

Matrix C, it will be noted, was produced simply by adding another similar variable to each of the two major subsets of matrix B. It is intended to illustrate what is wrong with an attempt to test a hypothesis concerning the relative importance of two types of variable (represented by the two major subsets in matrixes A and B) by adding to the regression two new variables deemed to be representative of each type.[8] We see from the regression coefficients of matrixes B and C that, if these new variables were truly typical of their type, the outcome could not possibly be otherwise. If one pie is to be divided among a larger number and another pie among a smaller number, no matter how often we add one to the number for each pie, it will never alter the fact that the portions from the first pie will be smaller than those from the second. Similarly, the regression coefficients of the larger subset in matrix C continue to be smaller than those of the smaller subset, so that the status quo derived from matrix B remains essentially unaffected.

The effect of heterogeneity among correlations with the dependent variable.—In the examples of matrixes A, B, and C, all of the predictors were equally correlated with the dependent variable. Obviously, even if these correlations were equal in the population, they would not all be exactly equal in a sample, and there could even be real differences among their population values that were nevertheless so small as to lead us to regard them subjectively as practically equal. Whether or not we would regard them as equal, differences among these correlations do affect the regression coefficients, especially when there are redundant subsets among the predictors. However, the magnitude of the effect depends heavily upon whether the differences appear between variables in *different* subsets or between variables in the *same* subset. This is illustrated in Table 2, which shows what happens when the correlations with the dependent variable for matrix A, all of which were .60, are systematically varied. Column 1 simply repeats, for purposes of comparison, the rele-

TABLE 2

THE EFFECTS OF FOUR DIFFERENT SETS OF CORRELATIONS WITH THE DEPENDENT VARIABLE WHEN THE INDEPENDENT VARIABLES ARE INTERCORRELATED AS IN MATRIX A

VARIABLE	SET OF CORRELATIONS WITH DEPENDENT VARIABLE, r_{yi}			
	(1)	(2)	(3)	(4)
1	60	55	60	60
2	60	55	60	60
3	60	55	60	60
4	60	60	55	60
5	60	60	55	55
	Corresponding Regression Coefficients, b_{yi}			
1	.19	17	19	19
2	19	.17	.19	19
3	19	17	19	19
4	27*	28*	24*	38*
5	27*	28*	24*	13
	Standard Errors of Regression Coefficients, $s_{b_{yi}}$			
1	11	12	.12	.11
2	11	12	12	.11
3	11	12	.12	11
4	.10	.11	11	10
5	10	.11	11	.10
	Corresponding Multiple Correlation Coefficients, $R_{y \cdot 12345}$			
	815	.781	783	803

* Significant at .05 level or better. All tests have 94 degrees of freedom, based on hypothetical samples of 100.

[8] For examples, see David J. Bordua, "Juvenile Delinquency and 'Anomie': An Attempt at Replication," *Social Problems*, VI, No. 3 (1958-59), 230-38; Roland J. Chilton, "Continuity in Delinquency Area Research: A Comparison of Studies for Baltimore, Detroit, and Indianapolis," *American Sociological Review*, XXIX, No. 1 (1964), 71-83; and the discussion of these papers in Gordon, *op. cit.*

vant data for the original matrix A problem. It will be recalled that matrix A consisted of a subset of three and a subset of two equally redundant predictors. Columns 2 and 3, respectively, show the effect of lowering the correlations with the dependent variable to .55, first for just the entire subset of three, and then for just the entire subset of two. In either case, the effect on the regression coefficients is small. However, when *just one* of the correlations involving a variable from the subset of two is lowered to .55, so that a difference in their relation with the dependent variable now appears between variables within the *same* redundant subset, the effect on the regression coefficients is pronounced (see column 4). In this situation, *the regression coefficient of the variable with* the higher correlation (here, the fourth variable) acquires most of the predictive value of its subset. In our example, its regression coefficient so closely approaches the values held by those for the subset of one in matrixes B and C that it might be said to behave as though it actually were a subset of one. Once again we point out that the effect on the standard errors of the regression coefficients, in any of the situations depicted in Table 2, is so small that it often fails to appear within two decimal places.

Our attitude toward the greater prominence given the fourth variable over its subset partner, the fifth variable, by this slight difference in their correlations with the dependent variable, could well be that this is quite proper. After all, if a dependent variable correlates slightly better with one of two variables that are themselves highly correlated with each other, it could mean that it is fundamentally more like that variable than like the second. Even so, the question could be raised as to whether a mode of analysis that transforms an 11:12 relationship (in the correlations with the dependent variable) or a 5:6 relationship (in terms of variance accounted for) into a 1:3 relationship (in the regression coefficients) provides the most helpful picture of the data. In any event, our acceptance of this outcome would be sharply revised if the outcome were based on observed values that did not reflect the true parameter values—for example, if the true correlations with the dependent variable were equal, but the observed correlations were not, or if the observed correlations reversed the direction of the true difference between the absolute correlations of two predictors with the dependent variable.[9]

It is difficult to say how likely these kinds of sampling fluctuations are to occur in practice. However, we might note that, for an observed correlation of .60 and a sample size of 100, the .95 confidence interval ranges from .46 to .71. In the present context, it suffices to point out that their effects on regression coefficients, should they occur, can *be surprisingly strong.*

Even when differences like those in column 4 of Table 2 reflect the true values of correlations, however, there is no reason to be complacent concerning their effect vis-à-vis the regression coefficients of variables in other subsets. In our example, the fourth variable is not correlated any more strongly with the dependent variable than the three variables constituting the larger subset, yet its regression coefficient is twice as large as any of theirs. In columns 2 and 3 of Table 2, we showed that, even when correlations with the dependent variable differed between entire subsets, the effect was not so great as this. This helps us to realize that if the correlation of the fourth variable with the dependent variable were in fact somewhat larger than the corresponding correlations of the subset of three, we would be tempted to regard its much larger regression coefficient as an appropriate reflection of this stronger relation with the dependent variable. In actuality, the greater part of the magnitude of the difference between regression coefficients would be due to differential relations with the dependent variable *within the subset of two* and would have nothing whatsoever to do with variables in the subset of three. Just how much of the difference

[9] It should be kept in mind that we are concerned with the absolute values of the correlations with the dependent variables, and not their algebraic values.

between regression coefficients would be due to differences within subsets and how much to differences between subsets would depend on the particular magnitudes involved, of course. Our point is simply that a very substantial part of this difference may be due to causes that are quite irrelevant to giving an accurate picture of the relative importance of the variables.

Of course, these differences in correlation with the dependent variable could appear among the variables either of the more repetitive (larger) subset or of the less repetitive (smaller) subset. In either case, they would tend to concentrate the predictive value of the entire subset in the regression coefficients of a smaller number of variables. Should the highest correlation with the dependent variable be attained by only one predictor, then the subset's predictive value would tend to concentrate in just one regression coefficient. Depending on whether such differences appeared in connection with the smaller or the larger subset, they would either add to or detract from the effect of differential repetitiveness on the variables involved.

The effect of unequal redundancy between subsets.—Obviously, the degree of redundancy (or level of internal correlation) can differ between subsets that are nevertheless clearly recognizable by their high internal correlations and which are identical with respect to repetitiveness (the number of predictors involved). This constitutes the simplest situation of the four that we shall discuss.

If all predictors correlate equally with the dependent variable—thus eliminating this source of disturbance—then unequal redundancy will produce larger regression coefficients, having smaller standard errors, for the variables in the less redundant subset. Although the resulting effects on both the regression coefficient and its standard error tend to be moderate, they are not insignificant. For example, in five out of six hypothetical problems that we constructed, based upon sample sizes of 100, these effects combine to prevent the regression coefficients of the more redundant subset from attaining significance. In all cases, those of the less redundant subset were significant. Table 3 presents the results from these six problems, which were varied systematically as to difference in redundancy (two levels) and strength of correlation between the subsets (three levels). It can be seen that the

TABLE 3

THE EFFECTS OF TWO LEVELS OF UNEQUAL REDUNDANCY AT THREE LEVELS OF BETWEEN-SUBSET CORRELATION IN A FOUR-VARIABLE MATRIX (ALL CORRELATIONS WITH THE DEPENDENT VARIABLE HAVE BEEN SET EQUAL TO .60)

Correlations within Each Two-Variable Subset	Correlations between Subsets, $r_{13} = r_{14} = r_{23} = r_{24}$: 2	5	6
	Regression Coefficients, $b_{y1} = b_{y2}$; $b_{y3} = b_{y4}$		
Subset I: $r_{12} = 7$	.288	234	.222
Subset II: $r_{34} = 8$	.264	204	180
Difference	024	030	042
Subset I: $r_{12} = 7$	288	246	.228
Subset II: $r_{34} = 9$	252	192	156
Difference	.036	054	072
	Standard Errors of Regression Coefficients, $s_{b_{y1}} = s_{b_{y2}}$; $s_{b_{y3}} = s_{b_{y4}}$		
Subset I: $r_{12} = .7$	08	.10	11
Subset II: $r_{34} = 8$	.10	12	13
Subset I: $r_{12} = 7$	09	.10	.11
Subset II: $r_{34} = 9$	.14	16	18
	t-Tests of Regression Coefficients		
Subset I: $r_{12} = 7$	3 4*	2 3*	2 0*
Subset II: $r_{34} = 8$	2 7*	1 7	1 4
Subset I: $r_{12} = 7$	3 4*	2 4*	2 0*
Subset II: $r_{34} = 9$	1 8	1 2	0 9

* Significant at .05 level or better. All tests have 95 degrees of freedom, based on hypothetical samples of 100.

effects grow stronger (*a*) the greater the difference in redundancy between the subsets, and (*b*) the stronger the correlation between subsets.

It is somewhat of a challenge to devise a plausible illustration of this particular effect that would also be intuitively regarded as leading to an obviously erroneous conclusion.[10] Imagine, however, a battery of predictors of success in some performance that requires both verbal and mathematical ability. Assume that the number of verbal measures equals the number of mathematical measures, that the correlations between the two subsets of measures are uniform, and that all correlate equally well with the dependent variable.

In this situation, it could occur that all of the verbal measures correlate more highly with each other than do the mathematical measures with each other, as a result of the more specific nature of the latter. For example, a course in analytical geometry could be more different from one in probability theory than a course in history from one in English literature. (In factor-analytic terms, a greater part of the valid variance of the mathematical measures would be represented in specific factors and a smaller part in a common factor than in the case of the verbal measures. To eliminate the possibility of a strong general factor that could absorb even the specifics, it might be necessary to stipulate that the population be relatively homogeneous in intelligence.)

At first glance, it seems appropriate that the greater predictive value of the mathematical measures would be reflected in regression coefficients larger than those of the verbal measures. However, as the result of crowding into the analysis multiple measures of a domain that is more constricted than the mathematical domain—a quite reasonable step from the standpoint of enhancing reliability—it could happen that none of the regression coefficients belonging to the verbal measures would reach statistical significance. If one were unaware of the more fundamental dimensions underlying the predictors, of how they were organized, of the difference in redundancy, and of the effect of these upon a regression analysis, one might easily conclude that verbal ability was less important than mathematical ability, overlooking the fact that if only one verbal measure had been employed it surely would have been significant. Thus, differences in redundancy can bring about exactly the same result caused by differences in repetitiveness. The main difference is that the illusion of fairness is greater for the pure form of the present effect, in that the number of variables is the same for each domain (or subset). Both effects, of course, can be simultaneously operative.

The effect of other possible variations in correlations.—It is only when correlations are uniform within each separate subset, and uniform between them as well, so that subset boundaries are clearly defined, that we can conveniently speak of redundancy and of differences in redundancy between sub-

[10] *An approximate example can be found in the* data of Lander, Bordua, and Chilton (all cited above), where we can identify equal-sized subsets of unequal within-set redundancy by considering variables in pairs. These pairs are made up on the basis of each variable's highest correlation (in absolute value) with any other variable. Just as for sociometric choices, these relations may or may not be reciprocal. Thus, in their three studies their four SES variables form two stable and reciprocal subsets, but their two anomie variables do not. One SES subset is comprised of education and rent (r = .89, .78, and .89, for each study in order), the other of substandard housing and overcrowding (r = .86, .83, and .93). In Lander's study only, the two anomie variables represent each other's most highly correlated variable, and then, in contrast to the values of .89 and .86 for the SES pairs, their correlation is only −.76. Consequently, on a pairwise basis, the anomie subset for Lander's study is less redundant than the SES subsets. To an even greater degree, this disparity appears in the Bordua and Chilton studies too, so that the highest correlation of any anomie variable is always less than the highest correlation of any SES variable.

It should be emphasized that this illustration from real data focuses only on the correlations *within* these subsets of size two as a source of redundancy, as though the between-set correlations were all equal. In fact, in the data from the three studies, they are not all equal. As will be shown in the next section of this paper, this complicates the situation considerably.

sets. Even slight departures from uniformity within any one of these groups of correlations will affect the regression coefficients in ways that no measure of redundancy can anticipate.

Three plausible measures of redundancy are: (1) the average absolute correlation of each predictor with the rest, (2) the average of the squares of correlations, and (3) the squared multiple correlation (SMC) of each predictor with all of the remainder. (Obviously, if the correlations *between* subsets are all equal, only the off-diagonal correlations *within* subsets need be considered for the averages.) The two averages have the advantage of being unaffected by the number of variables when the correlations are uniform, thus enabling us to define redundancy independently of repetitiveness. Moreover, they are easy to calculate. Because the SMC incorporates the contributions of redundancy—in the pure sense—and of repetitiveness too, it summarizes accurately the total overlap of each predictor with the others. However, this quality makes it unsuitable for drawing a heuristic distinction between redundancy and repetitiveness.

Even when the correlations with the dependent variable are all identical, the more sophisticated SMC measure does not fully determine the relative strengths of the regression coefficients. Those familiar with the computations will recognize that this is because the SMC depends upon only the value of a main diagonal element of the inverse of the matrix of correlations between predictors (see equation [6], below). It is with the variations among the predictor correlations underlying this further indeterminacy that this section is concerned. Since subsets with precise boundaries rarely occur in real data, the manner of characterizing this variation is somewhat arbitrary. This section, therefore, could quite reasonably have had many other headings, such as "variations within subsets" and "variations in the correlations between subsets."

It is best to proceed by introducing explicitly the inverse of the correlation matrix. Many persons performing multiple regression will be aware that there exist several methods for computing the regression coefficients, all of them tedious. They are probably also aware, nowadays, that, except for certain special cases, any rectangular matrix can be inverted and that this also is a tedious procedure. Few of them, however, will ever have seen an inverse matrix—fewer still will have actually inverted a matrix by hand computation. This is unfortunate because matrix inversion is one of the ways to solve multiple regression problems and, as it turns out, the elements of the inverse matrix can be expressed in an intuitively meaningful way that enables one to observe what is going on in a multiple regression better than at any other stage of the calculations.

For three independent variables, the regression coefficients can be obtained from the following matrix multiplication:

$$\begin{vmatrix} C_{11} & C_{12} & C_{13} \\ C_{21} & C_{22} & C_{23} \\ C_{31} & C_{32} & C_{33} \end{vmatrix} \begin{vmatrix} r_{y1} \\ r_{y2} \\ r_{y3} \end{vmatrix} = \begin{vmatrix} b_{y1.23} \\ b_{y2.13} \\ b_{y3.12} \end{vmatrix}, \quad (1)$$

where the r_{yi} are the correlations with the dependent variable, and the C's are elements of the inverse matrix.[11] The matrix multiplication simply expresses the following three operations in ordinary algebra:

$$\begin{aligned} C_{11}r_{y1} + C_{12}r_{y2} + C_{13}r_{y3} &= b_{y1.23}\,, \\ C_{21}r_{y1} + C_{22}r_{y2} + C_{23}r_{y3} &= b_{y2.13}\,, \quad (2) \\ C_{31}r_{y1} + C_{32}r_{y2} + C_{33}r_{y3} &= b_{y3.12}\,. \end{aligned}$$

In view of our simplifying assumption that all of the correlations with the dependent variable are equal or, in other words, that $r_{y1} = r_{y2} = r_{y3} = r_{yc}$, each of the above three operations could be expressed in the

[11] Except for omitting asterisks for the standardized regression coefficients, our notation follows that employed in Helen M. Walker and Joseph Lev, *Statistical Inference* (New York: Henry Holt & Co., 1953), pp. 332–34. This reference also provides a fuller development of the matrix algebra of multiple regression, as well as a parallel presentation in ordinary algebra.

following form, here illustrated only for the first:

$$r_{yc}(C_{11} + C_{12} + C_{13}) = b_{y1.23} . \quad (3)$$

Inasmuch as the correlations with the dependent variable are not now of interest, it is clear that the sum of the elements in each row wholly determines the regression coefficient of the variable associated with that row of the inverse (and also of the correlation) matrix. Consequently, the impact of just the independent variables on the regression coefficient could be expressed in the form of such a sum for each row. At some later point, these sums could then be scaled down to true regression coefficients simply by multiplying each of them by r_{yc}.

As it stands, the inverse matrix is not very helpful. Its elements have no immediately apparent interpretation, and the familiar meaning attached to the original correlation coefficients will have become hopelessly obscured in the course of the involved calculations necessary to obtain the inverse. True, the relative magnitudes of the elements and their locations in the matrix will suggest points at which things are happening of relatively greater or lesser importance—but the nature of these happenings will be unknown.

However, each element of the inverse can be expressed in terms of more familiar quantities. Let us take first the main diagonal elements, C_{ii}, for our three-variable example. If $s_{i.jk}$ is used to represent the square root of the residual variance left when any independent variable is predicted by all of the remaining independent variables or, in other words, if

$$s_{i.jk} = \sqrt{1 - R^2_{i.jk}} , \quad (4)$$

where $R_{i.jk}$ represents the multiple correlation, then C_{ii} is the reciprocal of this residual variance, or

$$C_{ii} = \frac{1}{(s_{i.jk})(s_{i.jk})} . \quad (5)$$

It might be pointed out, incidentally, that one can obtain all of the SMC's for a group of variables from the inverse matrix, since for any variable i,

$$\text{SMC} = 1 - \frac{1}{C_{ii}} . \quad (6)$$

For true correlation matrixes, that is, matrixes that observe the requirements for consistency among correlation coefficients, C_{ii} will always be positive.[12] Its range is from 1.0 to infinity.

An off-diagonal element, C_{ij}, is defined as follows:

$$C_{ij} = -\frac{r_{ij.k}}{(s_{i.jk})(s_{j.ik})} \quad (i \neq j) . \quad (7)$$

Thus, the numerator contains a familiar partial correlation coefficient, of an order that is always two less than the order of the matrix. Since we are now ignoring correlations with the dependent variable, the minus sign in formula (7) indicates that, when the partial correlation in the numerator is positive, this quantity will be subtracted from the main diagonal in forming the row sum, thus reducing our hypothetical regression coefficient. Of course, in real applications, the magnitudes and signs of the correlations with the dependent variable would have to be taken into account, in accordance with formula (2). It might be pointed out that the 1.0 in the numerator of the main diagonal entries, C_{ii}, is consistent with the definition of the C_{ij}, in that the partial cor-

[12] On the consistency relation, see *ibid*, pp. 344–45. This consistency requirement governs the construction of the examples used in this paper, which were created simply by writing down correlation coefficients and then inverting the resulting matrixes to obtain the usual multiple regression statistics. It was not necessary to generate the raw data implied by the correlations, although much trial and error was involved in arriving at suitable illustrations. Some care is required, however, in order to avoid examples that violate the consistency rule. The appearance of negative elements in the main diagonal of the inverse is one indication that consistency has been violated. A negative element there implies an SMC greater than 1.0 and, hence, "negative" residual variance. One should also avoid creating r_{yi} that are so large that a multiple correlation greater than 1.0 is implied for the example problem.

relation of a variable with itself is always 1.0.[13]

Inversion of the appropriate correlation matrix, incidentally, provides a convenient computer method for obtaining all of the highest-order partial correlations between variables of a set simultaneously, according to the formula

$$r_{ij.kl} \ldots \text{etc.} = \frac{-C_{ij}}{\sqrt{C_{ii}C_{jj}}}. \qquad (8)$$

We can now examine the elements of the inverse matrix, together with their more detailed versions as expressed in formulas (5) and (7), in order to see what is going on within certain problems in which small differences in correlations between independent variables produce disproportionately large differences in regression coefficients.

Table 4 presents three matrixes. The correlations appearing in the first of these, matrix L, resemble closely the correlations between the four variables in an example of real data.[14] This matrix, as did the original, contains two clearly delineated two-variable subsets. The only alteration is that we have substituted a correlation of .71—approximately their mean—for each of the four heterogeneous correlations between the two two-variable subsets in the original. By then introducing only a very simple change into the between-set correlations, we can retain the relevance of real data, without their complexity, while observing the effect of variation among these correlations. This change appears in matrix M, where the correlations of the first variable with the third and fourth have been raised from .71 to .73. In each of the examples based on the three matrixes in Table 4, the hypothetical correlations with the dependent variable have been set equal to .50.

In matrixes L and M the internal correlations of the less redundant subset are .86 and of the more redundant, .89. In L, the larger regression coefficients naturally accompany the variables of the less redundant subset. This is the effect of unequal redundancy that was discussed earlier. Before going on to the more complicated matters of this section, let us note how this comes about, first by examining the ordinary inverse, and then the detailed inverse.

In the ordinary inverse, we note that the between-subset C_{ij} are all equal, at −.474. Therefore, only the within-subset C_{ij} need be considered. Of these, we look first at the main diagonal elements. C_{11} and C_{22}, of the more redundant subset, are both larger than C_{33} and C_{44}. This would produce larger regression coefficients for the *more* redundant subset, an effect opposite to that which actually occurs. The remaining within-subset elements, C_{12}, C_{21}, C_{34}, and C_{43}, which carry negative signs, determine the final outcome. This is because C_{12} and C_{21} are both absolutely larger than C_{34} and C_{43}. In the pure case of the effect, this difference is always large enough to more than offset the difference between the two sets of main diagonal elements. Consequently, the more redundant subset will always have the smaller regression coefficients. The detailed inverse makes it clear why this is so.

The difference between the two sets of main diagonal elements reflects the greater overlap (higher SMC's) of the more redundant variables. In the detailed inverse,

[13] A derivation of equations (5) and (7) for the case with two independent variables, but for unstandardized coefficients, is given in A. Hald, *Statistical Theory with Engineering Applications* (New York: John Wiley & Sons, 1952), pp. 640–42. Because Hald uses only two variables, it is not readily apparent that many of the terms are actually partials when more than two variables are involved. The conversion to standardized data, however, is quite simple. Equation (6) is derived in K. A. Brownlee, *Statistical Theory and Methodology in Science and Engineering* (New York: John Wiley & Sons, 1965), p. 450. From this, equation (5) is readily obtained. Equation (8) is stated without proof in Robert G. D. Steel and James H. Torrie, *Principles and Procedures of Statistics* (New York: McGraw-Hill Book Co., 1960), p. 301. See also Cyril H. Goulden, *Methods of Statistical Analysis* (New York: John Wiley & Sons, 1952), chap. viii. From this equation, both equations (5) and (7) can be obtained with the help of (6). We regret that, although these relationships are fairly well known, we cannot cite a proof for the general case of equation (7).

[14] The reference is to the four SES variables in Lander, *op. cit.*

TABLE 4

MATRIXES L, M, AND N; EXAMPLES OF THE TIPPING EFFECT

(r_{yi} = .50; N = 100)

Matrix	Correlations and Inverse of Correlations between Independent Variables				b_{yi}	s_b	t	$p<$
L: Correlations . .	.	.89	71	.71	.146	195	75	N S
	89	.	71	.71	146	.195	.75	N S
	.71	71	.	86	156	176	89	N S.
	.71	71	86	.	.156	176	89	N S
L: Inverse .	5 166	−3 925	− .474	− 474				
	−3 925	5 166	− 474	− 474				
	− .474	− .474	4 202	−2 941				
	− .474	− .474	−2 941	4 202				
L: Detailed inverse* . . .	$+\frac{1}{(4400)^2}$	$-\frac{760}{(.4400)(.4400)}$	$-\frac{102}{(4400)(4879)}$	$-\frac{102}{(4400)(4879)}$				
	$-\frac{760}{.1936}$	$+\frac{1}{(4400)^2}$	$-\frac{102}{(4400)(4879)}$	$-\frac{.102}{(4400)(4879)}$				
	$-\frac{102}{2147}$	$-\frac{.102}{2147}$	$+\frac{1}{(4879)^2}$	$-\frac{700}{(4879)(4879)}$				
	$-\frac{102}{.2147}$	$-\frac{102}{.2147}$	$-\frac{.700}{.2380}$	$+\frac{1}{(4879)^2}$				
M: Correlations		89	.73	.73	116	199	58	N S
	.89	.	71	71	176	192	91	N S
	.73	.71	.	86	.156	176	.89	N S.
	73	71	.86		156	176	.89	N.S.
M: Inverse	5 397	−3 920	− 622	− 622				
	−3 920	5 032	− .382	− 382				
	− 622	− 382	4 230	−2 913				
	− 622	− 382	−2 913	4 230				
M: Detailed inverse* .	$+\frac{1}{(4305)^2}$	$-\frac{.752}{(4305)(.4458)}$	$-\frac{130}{(4305)(4862)}$	$-\frac{130}{(4305)(.4862)}$				
	$-\frac{752}{1919}$	$+\frac{1}{(4458)^2}$	$-\frac{083}{(4458)(4862)}$	$-\frac{083}{(4458)(4862)}$				
	$-\frac{.130}{.2093}$	$-\frac{083}{.2167}$	$+\frac{1}{(4862)^2}$	$-\frac{689}{(.4862)(4862)}$				
	$-\frac{130}{2093}$	$-\frac{083}{.2167}$	$-\frac{689}{.2364}$	$+\frac{1}{(4862)^2}$				

* Denominators below the main diagonal show products of numbers in denominators above the diagonal.

TABLE 4—*Continued*

Matrix	Correlations and Inverse of Correlations between Independent Variables					b_{yi}	$s_{b_{yi}}$	t	$p<$
N. Correlations:	. . .	80	0 00	0 00	0 00	386	080	4 80	001
	80		0 00	0 00	10	142	081	1 76	N S
	0 00	0 00		. 80	0 00	278	079	3 49	001
	0 00	0.00	80		0 00	278	079	3 49	001
	0 00	10	0 00	0 00		.486	.048	10 02	001
N. Inverse...	2 829	−2 286	0 000	0 000	229	.	.		
	−2 286	2 857	0 000	0 000	− 286		.	.	
	0 000	0 000	2 778	−2 222	0 000		.		
	0 000	0 000	−2 222	2 778	0 000				
	229	− 286	0 000	0 000	1 029				.
N Detailed inverse*...	$+\frac{1}{(5946)^2}$	$-\frac{804}{(5946)(5916)}$	$-\frac{0\ 000}{(5946)(6000)}$	$-\frac{0\ 000}{(5946)(6000)}$	$-\frac{-\ 134}{(5946)(9858)}$				
	$-\frac{804}{3518}$	$+\frac{1}{(5916)^2}$	$-\frac{0\ 000}{(5916)(6000)}$	$-\frac{0\ 000}{(5916)(6000)}$	$-\frac{167}{(5916)(9858)}$				
	$-\frac{0\ 000}{3568}$	$-\frac{0\ 000}{.3550}$	$+\frac{1}{(6000)^2}$	$-\frac{800}{(6000)(6000)}$	$-\frac{0\ 000}{(6000)(9858)}$				
	$-\frac{0\ 000}{3568}$	$-\frac{0\ 000}{3550}$	$-\frac{800}{3600}$	$+\frac{1}{(6000)^2}$	$-\frac{0\ 000}{(6000)(9858)}$				
	$-\frac{-\ 134}{5862}$	$-\frac{167}{.5832}$	$-\frac{0\ 000}{.5915}$	$-\frac{0\ 000}{.5915}$	$+\frac{1}{(9858)^2}$				

we see that, since these elements always have 1.0 in the numerator, the difference is produced by the smaller residual standard deviations in the denominators of the more redundant pair, according to equations (4) and (5).

The remaining within-subset elements, C_{12}, C_{21}, C_{34}, and C_{43}, have the same denominators as their main diagonal elements. This leaves the outcome to be determined entirely by the numerators of these remaining elements, the numerators of the main diagonal elements being fixed. These critical numerators consist of the partial correlations between members of the same subset. Since all other things (the between-subset zero-order correlations) are equal, the more redundant subset, with the higher zero-order correlations, has the higher partial correlation. Thus, in this example, the zero-order correlations of .89 and .86 give rise to the second-order partials of .76 and .70, respectively. This partial correlation determines the quantity to be subtracted from the main diagonal elements and thus accounts for the fact that the more redundant subset always has the smaller regression coefficients.

However, the principal demonstration of the present section has to do with the changes from .71 to .73 in some of the correlations in going from matrix L to matrix M. These changes drastically alter the relative sizes of the first two regression coefficients. For matrix M, $b_{y1\cdot 234}$ is only two-thirds as large as $b_{y2\cdot 134}$, which is also larger than the regression coefficients of the two less redundant variables, $b_{y3\cdot 124}$ and $b_{y4\cdot 123}$. Once again, the difference between the standard errors of $b_{y1\cdot 234}$ and $b_{y2\cdot 134}$ is negligible. Although none of the t-tests reaches significance in this example, it is evident, with such a substantial difference between the values of t for the first and second variables,

that the results of the test could easily straddle the threshold of significance for a similar problem with less overlap between all of the variables. The addition of a fifth variable, relatively unrelated to the rest, could also lower the standard errors enough to accomplish the same result.

The fact that $b_{y2.134}$ becomes *larger* than $b_{y1.234}$ can be traced to the difference between the partial correlations in the numerators of C_{13}, C_{14}, C_{23}, and C_{24}. A potential for reversing the direction of this difference exists as a result of the difference between the residual standard deviations in the denominators of C_{11} and C_{22}, the main diagonal elements. This difference between the denominators—caused by the difference between $R^2_{1.234}$ and $R^2_{2.134}$—favors $b_{y1.234}$ being larger than $b_{y2.134}$ instead of vice versa. The r_{yi} control the relative weighting of these two influences, according to equation (2); and if they were not all equal in the present case, the result could be quite different. In our example, the influence of the partial correlations depends on r_{y3} and r_{y4}, while that of the SMC's depends upon r_{y1} and r_{y2}.

Because the changes to .73 in matrix M are symmetrical with respect to the third and fourth variables, they hardly affect $b_{y3.124}$ and $b_{y4.123}$ at all. It is only the predictive value of the first two variables that is disturbed, and even this remains roughly constant in total ($b_{y1.234}$ plus $b_{y2.134}$). Only its distribution between variables one and two is altered, as though the balance of predictive value were tipped sharply in favor of variable two by the slight change introduced into the correlations.

The third example in this series, matrix N, is intended to illustrate several things. First, it shows how a correlation that is relatively unimportant in appearance (.10 in this case), perhaps far distant in the matrix from the subset it is affecting and hence easy to ignore, can also bring this sharp tipping effect about. In this example, the values of t do straddle the conventional significance point, and the regression coefficient of the second variable is only 37 per cent as large as that of the first variable. Furthermore, the first variable is made to look more important than the third and fourth variables, although its zero-order correlations are all identical to theirs. This greatly enhanced importance of the first variable comes about indirectly through a minor correlation of *another* variable (the second) with which the first just happens to be paired.

Although the regression model assumes the correlations between independent variables to be fixed, this viewpoint is of little comfort if the decision to adopt one rather than another of several quite different interpretations of the data depends heavily upon correlations that are statistically unreliable, substantively inconsequential, or both. For the disturbing correlation of .10 in the present example, and an assumed sample size of 100, the .95 confidence interval ranges from −.10 to .28. In the case of the real data upon which this example is based, the four correlations between the two subsets all had different values, ranging from .68 to .76. With a real sample size of 155, none of the *relevant* comparisons between those correlations is statistically significant, yet their differences would influence strongly the outcome of a regression analysis in which they were the correlations for the independent variables. In a case like this, where all four of the between-subset correlations have different values, to the extent they fail to tip one subset because the r_{yi} of the other subset are small relative to the r_{yi} of the first, they can more easily succeed in tipping the other subset, for which the relevant r_{yi} will then be large.

It should not be assumed, because of the large number of zero correlations that it contains, that the example of matrix N is in any way peculiar. Actually, the zeroes are conservative in their influence. If r_{13}, r_{14}, r_{23}, and r_{24} (with their symmetrical counterparts) were all changed from 0.0 to .60, for example, $b_{y1.234}$ would equal .553 and $b_{y2.134}$ would equal .034, simply as the result of the .10 correlation. The second regression coefficient would then be only 6 per cent,

instead of 37 per cent, as large as the first. Clearly, the more highly all of the variables are correlated, the more accentuated the tipping effect.

Of course, the more conspicuous the disturbing correlation, the stronger the tipping effect also—and the more justifiable the interpretations affected by it. Therefore, this aspect of the problem requires no further demonstration, since the difference between .10 and zero is sufficiently compelling as an example of a trivial difference in correlations. But the within-subset correlations, r_{12}, r_{21}, r_{34}, and r_{43}, could be other than .80, which is a rather high correlation. What happens to the tipping effect when various other possible values are substituted for the .80 correlations in matrix N is explored, therefore, in Table 5. This table shows that the more highly correlated the variables in question, the more susceptible they are to being tipped. If in all these cases we regard the difference between a correlation of zero and a correlation of .10 as the cause, then it is clear that the magnitude of the effect can range rather widely; throughout most of this range, however, we would regard the effect as disproportionate to the cause.

The reason for this increasing susceptibility lies with the C_{ij} that occupy positions in the inverse matrix corresponding to the positions of the correlations between the subset members themselves—in the present example, C_{12} and C_{21}. Other things remaining fixed, as the correlation between the first two variables increases, so will their partial correlation. Since this partial constitutes the numerator of C_{12} and C_{21}, this means that the numerators of C_{12} and C_{21} will approach the value of 1.0 in the numerators of C_{11} and C_{22}. And since, by definition, variables one and two are in the same subset, they will tend to have similar SMC's, and hence the denominators of all four of these elements will tend to be close in value. Taken together, these factors cause C_{12} and C_{21} to approach C_{11} and C_{22} in absolute value. Subtraction of the former pair from the latter pair thus tends more and more—as the within-set correlations increase—to cancel entirely the contribution of the main diagonal elements to the row sum, leaving this sum to be determined more and more fully by the partial correlations in the numerators of the remaining C_{ij} of these rows.

These remaining C_{ij}—in the present example only C_{14} and C_{24}, since $C_{13} = C_{14} =$

TABLE 5

ROW SUMS OF INVERSE OF MATRIX N (FOR $b_{y2.134}$ AND $b_{y1.234}$) AS A FUNCTION OF THE CORRELATIONS WITHIN SUBSETS, r_{12}, r_{21}, r_{34}, AND r_{43}*

Correlations within Subsets, $r_{12}=r_{21}=r_{34}=r_{43}$	Sum for $b_{y2.134}$	Sum for $b_{y1.234}$	Ratio, $\frac{b_{y2.134}}{b_{y1.234}}$	Sum for $b_{y3.124}$ and for $b_{y4.123}$†
.10	.816	.918	.89	.909
20	.737	852	.86	.834
40	.603	.759	.79	.714
.60	.476	.714	67	625
80	285	772	37	.556
90	0 000	1 000	.00	526
99	−9 091	10 000	− 91	.502

* Row sums are given because of the difficulty of finding a value of r_{yi} that would serve for all of the examples and yet not violate the restrictions on consistency between correlations. The ratios between these sums, of course, are the same as the ratios between actual regression coefficients, given that all of the r_{yi} within each separate problem are equal

† The sums for these two coefficients are identical, of course.

$C_{23} = C_{24} = 0.0$—also react to the above changes so as to enhance the tipping effect. First of all, we shall look at their denominators.

As the correlation between the first two variables increases, naturally so do the SMC's of both, leading to smaller residual standard deviations in the denominators of all of the elements in their rows and columns. This gives greater weight to the partials in the numerators of the remaining C_{ij}, making these C_{ij} larger in size. Any difference between the partials of the first row and the partials of the second row is then reflected in a larger difference between C_{1j} and C_{2j}. This effect is especially telling whenever C_{1j} and C_{2j} are opposite in sign, as are C_{15} and C_{25} in the example of matrix N.

Granting that the partial correlations in the numerators of the remaining C_{ij} will seldom be of the first order, the way in which they are affected can best be suggested by examining the most influential first-order partial for r_{15}, namely, $r_{15\cdot2}$, and the numerator of the usual formula for calculating this partial, $r_{15} - r_{12}r_{25} = 0.0 - (.80)(.10)$. Clearly, as the within-subset correlation r_{12} increases, this entire expression will become increasingly negative, leading to an increasingly *positive* C_{15} (see eq. [7]). C_{25}, on the other hand, will remain negative, because the numerator of $r_{25\cdot1}$, its own corresponding partial, which is $r_{25} - r_{12}r_{15} = .10 - (.80)(0.0)$, remains positive. (The denominators of the pairs of partials we are examining are virtually identical, and so they can be ignored.)

Although tipping is apt to be especially strong when these C_{ij} elements become opposite in sign (note the effect of C_{16} and C_{26} on their row sums in matrix N), the effect does not require this opposition. In the case of the previous example, matrix M, the tipping effect did not depend upon any sign changes. For that matrix, relevant illustrations would be for the numerators of, say, elements C_{13} and C_{23}. (C_{14} and C_{24} behave identically to these two.) For the appropriate first-order partials, $r_{13\cdot2}$ and $r_{23\cdot1}$, the respective numerators would appear as follows: $r_{13} - r_{12}r_{23} = .73 - (.89)(.71) = .098$; and $r_{23} - r_{12}r_{13} = .71 - (.89)(.73) = .060$. Although .098 and .060 are both small and positive, and the difference between them is also extremely small, it is their *ratio* that counts. This ratio, of .060 to .098, is .612—almost exactly the same as the ratio of .614 of C_{23} to C_{13} (that is, of $-.382$ to $-.622$) in this matrix. (Although our point is that the numerators of these first-order partials almost entirely determine the numerators of C_{13} and C_{23}, and that the latter numerators are chiefly responsible for the difference between C_{13} and C_{23}, that .612 is as close as it is to .614 is partly due to coincidence. Generally, although close, these values would not be so nearly identical.) The other first-order partials for these C_{ij}, $r_{13\cdot4}$ and $r_{23\cdot4}$, are much less influential. The ratio between their numerators, for example, $r_{13} - r_{14}r_{34} = .73 - (.73)(.86) = .102$ and $r_{23} - r_{24}r_{34} = .71 - (.71)(.86) = .099$, is .973. This is so close to 1.0 that it would tend to produce almost identical values for C_{13} and C_{23}. These examples indicate how susceptible some analyses are to being strongly influenced by even the most minute changes in the detailed inverse matrix.

The interested reader will also note the additional small assist given to C_{13} and C_{14} of matrix M from having .4305 as a factor in their denominators instead of the .4458 of C_{23} and C_{24}. This stems from the higher SMC of variable one, of course.

Returning to matrix N and Table 5, we note that eventually $b_{y2.1345}$ passes through the zero point and becomes negative. When the within-subset correlations are in the range .90–1.0, the absolute values of the two regression coefficients become extremely large. Their algebraic sum, however, remains practically constant. This illuminates the behavior of multiple regression coefficients in curvilinear regression and another mistake that is sometimes made.

Whenever a quadratic (curvilinear) component is introduced as a new independent variable into a correlation matrix, its absolute correlation with the linear component

of the same variable will be very high—usually between .96 and .99. According to the effect of repetitiveness, the two components might be expected to divide the predictive value of either one alone approximately equally between them, with the addition of some small gain from the improvement in fit. This would yield regression coefficients for each component of the variable approximately half the size of the linear component's alone, suggesting that there might be a problem in testing for significance with the usual *t*-test.

However, because of the susceptibility of two such highly correlated predictors to both the tipping effect and the effect of unequal correlation with the dependent variable (which occur despite the near perfect correlation), this neat division of the predictive value into two equal parts is unlikely to come about. Instead, one component will have either slightly lower correlations than the other with the remaining independent variables, or a slightly greater correlation with the dependent variable, or both, and the predictive value of the pair will tip markedly in its favor. Because of the pair's extremely high correlation, and the fact that these two effects are so potent, one of the two regression coefficients is usually passed right through the zero point to assume a high negative value, whereas the other assumes a high positive value. Although the algebraic sum of the two exceeds that of the one only to the extent there is an improvement in fit, both coefficients become much larger in absolute value than the regression coefficient of the linear component alone, leading to the superficial impression that with allowance for curvilinearity the true importance of the predictor has been uncovered.

In this situation, the appropriate statistical test compares the error sum of squares from the curvilinear analysis with the error sum of squares from the non-curvilinear analysis to see whether the former is significantly smaller than the latter. In effect, the predictor's two regression coefficients in the curvilinear analysis are tested at one stroke, rather than individually, as with the usual *t*-test, which would be wrong to apply in this case.[15]

Let us return to matrix N one last time in order to say a word about the effect of negative and zero correlations. It is well known that most social science correlation matrixes are entirely positive, or can be made so by reflecting the appropriate variables. However, exceptions can occur. When they do, the effect of a negative correlation on the multiple regression can be much stronger than its absolute magnitude would lead one to expect. Some zero correlations, seemingly innocent in appearance, have the same result. Take, for example, the zero correlation, r_{15}, in matrix N. It occurs between two variables, one and five, that are both correlated in the same direction with the same other variable, namely, variable two. The fact that their joint positive correlations with two are not reflected in a positive correlation between them indicates that they both contain variance that is nega-

[15] Lander appears to have tested these two components in his curvilinear analysis with the *t*-test, as though they were independent regression coefficients, because he reports different levels of significance for the two. The correct test would yield only one level of significance, and it would apply simultaneously to both components. The correct test, incidentally, continues to reject the hypothesis of non-curvilinearity for Lander's data—tentative exploration with the wrong test suggests that it lacks power, so that when it is significant the correct test will be significant too. (We are indebted to Leon J. Gleser for looking into this question of power.) Lander made much of the curvilinear relationship between delinquency and percentage non-white. It seemed to him to indicate that delinquency was at a maximum in census tracts that were more heterogeneous, because anomie was greater there. Although our findings concerning the fact of curvilinearity concur with his, this does not imply any indorsement of his interpretation of the shape of the curve or of its cause. Because our delinquency rate data are only close approximations of his (see Gordon, *op. cit.*), and it is difficult in any case to follow his description of what he did, no attempt was made to check this part of his analysis in more detail. For a good discussion of tests of regression coefficients, see Jerome C. R. Li, *Statistical Inference II, the Multiple Regression and Its Ramifications* (Ann Arbor, Mich.: Edwards Bros., Inc., 1964), pp. 185-86.

tively correlated between them, so that the total correlation averages out to zero. Since one and five both correlate with two in the same direction, the only way they can contain mutually negatively correlated variance, without altering the sign of either r_{12} or r_{25}, is if it is in a direction orthogonal to that component of two's variance expressed in its correlations with both of them. Since both one and five contain variance that is orthogonal to two, the presence of this variance reduces their correlations with two because it constitutes a part of their total variance that two cannot possibly account for. Consequently, when either is partialled out of the relationship the other has with two, the partials become *larger* than the observed zero-order correlations, r_{12} and r_{25}. And when two is partialled out of r_{15}, the partial becomes negative, thus giving rise to a positive C_{15}. Had r_{15} been negative instead of zero, all of these statements would still apply, only more strongly.

The best way to visualize these relations is to imagine all three variables located with respect to two orthogonal factors. Variable two would lie collinear with one factor, and variables one and five would lie 90 degrees apart from each other (if uncorrelated; if negatively correlated, between 90 and 180 degrees apart), one loading positively and the other negatively on the second factor. Variable two would lie between them, forming acute angles with both. Variables one and five thus cancel the second factor's variance in each other, in effect rotating each toward the first factor and strengthening the correlation of each with two. In this type of situation, one and five play the role of suppressor variables with respect to each other, suppressing the contaminating variance of the second factor.[16]

Because correlations like r_{15}, especially when negative, cause other correlations in their row and column to be in effect higher than they appear to be (that is, the relevant first-order partials are higher than the zero-orders), they are thus capable of creating situations of much higher redundancy than the unwary investigator might realize. Therefore, it is necessary to be aware of their possible presence and of what they can do, should one wish to inspect a matrix to see to what extent it might be subject to the effects that have been described in this paper. These suppressor relations could, for example, drastically increase susceptibility to tipping, or cause tipping in a direction opposite to that which one might ordinarily expect on the basis of the zero-order correlations.

In the examples of matrixes L, M, and N, it so happens that the tipping effect works to diminish the apparent importance of the variable with the higher SMC. Consequently, even if the magnitude of the effect seems excessive, at least its direction appears to conform to one's expectations concerning the outcome of partialling, namely, that the most overlapping variable will usually be the most adversely affected. In order to dispel any impression that this is necessarily always the case, we present matrix Z, in Table 6. After inspecting this matrix, it may come as a surprise to some that the first variable possesses the highest SMC. Not only is this true, but it is also the variable that benefits most from the strong tipping effect induced by having set r_{14} equal to zero instead of .10.

GENERAL COMMENTS ON MULTIPLE REGRESSION

The examples in the preceding section show that small variations among the correlations of a highly related set can create large variations among their regression coefficients. It is hard to imagine any substantive importance that could be attached to such small differences between correlations, yet data analysts are quite apt to attach substantive importance to the larger differences between regression coefficients that they produce. Particularly likely to be misleading are those comparisons between regression coefficients that pit a variable

[16] For a good discussion of suppressor variables and multiple regression, see J. P. Guilford, *Fundamental Statistics in Psychology and Education* (New York: McGraw-Hill Book Co., 1965), pp. 403–8.

winning the sharp internal competition within one such subset against a losing variable from some other similarly competitive subset. When this happens, the zero-order difference between the two can be either exaggerated or minimized. Whichever way it goes, the outcome will be determined by considerations that have little to do with the relation between the two variables. Instead, it will reflect mainly each of their relations to separate sets of other variables—often, quite trivial aspects of those relations.

The generally accepted view that partial regression coefficients express the relative importance of variables has contributed to this uncritical way of looking at them by its not having taken sufficient account of the nature of that importance. Oftentimes, what is actually being compared, if anything, is the local importance of a variable in its own domain with the local importance of another variable belonging to some other domain. It is quite doubtful that sociologists are always seeking such a domain-bound conception of importance whenever they employ this method. Furthermore, as the examples show, even comparisons between variables within the same domain or subset can be extremely sensitive to minor disturbances. Adding to the confusion is the fact that the method itself does not distinguish between comparisons that are sensitive to local contexts and those that reflect more uniformly the total context of all of the independent variables.

For some time now, sociologists have been aware that the values of regression coefficients are not immutable and that they can be greatly affected by changes in the selection of independent variables to be included in an analysis. They have continued, however, to regard regression coefficients as being meaningful within the context of the particular problem in which they appear. Our attempts to describe the inner workings of regression showed four ways in which this assumption could be seriously in error. Even for a given set of variables, there is a sense in which the comparisons being made can be grossly unfair and misleading.

The question naturally arises as to whether there are any conditions under which the effects that we have described do not matter. It is certainly clear that as the level of correlation and the number of variables increase, conditions become more critical. Especially as the number of variables increases, the rationale for the presence of any particular variable is apt to grow more tenuous. Unlike factor analysis, multiple regression is not an all-purpose method for data reduction.[17] If posed in terms of levels of correlation between independent variables, we suspect that the answer to the question is that when the correlations are so low that they do not matter, then partialling itself will not matter and a zero-order analysis would serve as well.

In a more important form, the same question is raised again by the many examples of

TABLE 6

MATRIX Z

(r_{yi} = .50; N = 100)

Variable	Correlations between Independent Variables				SMC	b_{yi}	$s_{b_{yi}}$	t	$p <$
1. . . .	.	80	.80	00	.719	.34	14	2 5	02
2 . . .	.80		80	.10	.714	10	13	0 7	N S.
3.	.80	80	.	10	714	10	.13	0 7	N.S.
4. . . .	00	10	10		038	48	07	6 6	001

[17] Analyses such as Chilton's, for example, which employs eighteen independent variables and uses highly correlated census tract data, are almost certainly of no practical value (see Chilton, *op. cit.*, p. 80).

regression having been successfully applied in other fields, such as economics. Apparently, the manner in which these fields employ regression must differ, in some fundamental way, from its less sophisticated use in sociology. Much of this success is accounted for by studies that employ regression for predictive purposes only. Although prediction often entails making comparisons between regression coefficients, the criticisms set forth here do not apply in their case. This is because those comparisons are intended to achieve pragmatic rather than theoretical objectives. Their aim is to eliminate superfluous variables rather than to test theoretical hypotheses. However, many other studies plainly do seek a better understanding of the relations between variables. The following examples of this may help us to understand why they do not run afoul of misleading effects.

Cows, acres, and men were employed as independent variables in a study of dairy farm income. The regression coefficients showed them to be important in the order listed. Nonetheless, it is absolutely clear that *no matter what* the rank order of cows in this problem, and *no matter how small* its regression coefficient turned out to be, no one would claim that cows are irrelevant to dairy farm income. One would as soon conceive of a hog farm without hogs. Although men turned out to be the factor of production that was least important in this problem, no one would claim either that men are not in fact essential.[18]

Another study examined various body measurements, together with age, sex, and race, in order to arrive at size standards for children's clothing. Height and girth at hips were found to be most important, with age contributing no net effect. It is part of the charm of this example that the more tautological elements emerged, and rightfully so, at the expense of the fundamentally more causative variable. Even so, no one would argue, on the basis of this finding, that a child's body size is unrelated to his age.[19]

The relatively strong theory that surrounds the zero-order relationships in this pair of examples contributed to their success in two ways. First, it prevented the investigators from mistakenly dismissing some variables as being of no theoretical importance, had they been tempted to do so.[20] Second, it meant that the zero-order relationships were so thoroughly understood that the investigators really did intend to move beyond them into the more intimate analysis of partialling. The decision to operate at this microscopic level means that one is interested in differences between variables no matter how highly correlated and similar they may be.[21]

These observations lead us to conclude that successful work with regression coefficients is characteristically pitched at the finer of the levels of distinctness distinguished earlier in this paper. Consequently, the advantages of strong theory and of understanding, if indeed these are separable, would always be present. This conclusion is consistent with the views of Ezekiel and Fox, who stress over and over the necessity for "careful logical analysis, and the need both for good theoretical knowledge of the field in which the problem lies and for thorough technological knowledge of the elements involved in the particular problem."[22] Furthermore, workers in other fields

[18] Mordecai Ezekiel and Karl A. Fox, *Methods of Correlation and Regression Analysis* (New York. John Wiley & Sons, 1959), p. 181.

[19] *Ibid.*, p. 454. See especially chap. xxv, which contains many other examples.

[20] Lander, for example, dismissed the importance of SES in relation to delinquency, not realizing that the reason his SES variables failed to produce significant regression coefficients was that they were so repetitively and redundantly represented (see n 3 above). Had the theoretical connection between SES and delinquency been as strong, say, as that between age and size of child, he would have been forced to think twice before writing off the relevance of SES.

[21] Had Lander deliberately aimed at such a fine-grained analysis, it would not have occurred to him to dismiss anything.

[22] *Op. cit.*, p. 458. See also p. 432, where they counsel years of experience with the type of data to

seem to be more aware than sociologists are of the pitfalls in regression analysis. This is reflected in efforts in those fields to develop techniques that go beyond simple examination of the regression coefficients. Thus, with the recent and important exception of Blalock's work, there has been nothing in sociology like Wright's path coefficients in biometrics or Frisch's exhaustive bunch maps in econometrics.[23] Merely processing one's data through a stepwise regression routine guarantees nothing in the way of protection. It may in fact induce a false sense of security. Although a stepwise analysis does examine an important subset of all of the relations between variables, and any additional information is apt to be helpful, of itself it is no substitute for understanding of the depth recommended by Ezekiel and Fox. The advantage of the more sophisticated techniques appears to lie in the production of just this kind of understanding, rather than in some mechanical but ingenious circumvention of the problems connected with ordinary regression coefficients. Through this increased understanding, the investigator is led naturally toward working at the finer level of distinctness, even if this had not been his original intention.[24]

Lest there be some misunderstanding, let us make absolutely clear that we have not been condemning the method of multiple regression in general. There remain many situations in sociology for which regression is an excellent tool of analysis.[25] We do condemn, however, those applications of regression coefficients that seek to determine

be investigated. Other, special uses of regression, to which our criticism is not meant to apply, are cited in chap. xxiv. Norman Draper and Harry Smith are equally emphatic about the need for understanding. See chap. viii, which is excellent, in their *Applied Regression Analysis* (New York: John Wiley & Sons, 1966). Their chap. vi is also the best discussion we know of the various stepwise procedures.

[23] Since this paper was first drafted, Otis Dudley Duncan has revived interest in path coefficients. See his "Path Analysis: Sociological Examples," *American Journal of Sociology*, LXXII, No. 1 (1966), 1-16. In addition to Duncan's paper, bibliographic references to Sewall Wright's work may be found in Blalock, *Causal Inferences*, p. 193; and in John W. Tukey, "Causation, Regression, and Path Analysis," *Statistics and Mathematics in Biology*, ed. Oscar Kempthorne and Others (Ames, Iowa State College Press, 1954), chap. iii. On bunch maps, see Ragnar Frisch, *Statistical Confluence Analysis by Means of Complete Regression Systems* (Oslo: University Institute of Economics, 1934). For a recent application of bunch maps, see Richard Stone, *The Measurement of Consumers' Expenditure and Behavior in the United Kingdom, 1920-1938* (Cambridge: Cambridge University Press, 1954), Vol. I, esp. chap. xix. Besides Stone, other discussions of Frisch's work and of alternative approaches may be found in Tjalling Koopmans, *Linear Regression Analysis of Economic Time Series* (Netherlands Economic Institute No. 20 [Haarlem: De Erven F. Bohn N. V., 1937], Part II; and Harold T. Davis, *The Analysis of Economic Time Series* (Bloomington, Ind.: Principia Press, 1941), pp. 195-97.

[24] True, had Lander, in the example we have criticized, been able to employ even stepwise analysis, he might have noted that after "owner occupancy" and "substandard housing," all five of the remaining variables together added less than 1 per cent to the explained variance. This would have protected him from undertaking the analysis that he did—but it would also have changed the complexion of the problem and told him nothing concerning the five variables that were excluded. Furthermore, because a stepwise analysis will continue to accept variables as long as they contribute a worthwhile increment to explained variance, it offers no protection against the effects described in this paper whenever the correlations between independent variables are low. Yet, those effects can still occur, albeit in a vastly attenuated form. Even in the example of Lander's data, it would have accepted two variables strongly saturated with SES. Both of them would have to split the predictive value of SES between them, in potential contrast to any additional worthwhile predictor representing some orthogonal domain all by itself.

[25] Many good illustrations of the flexibility of this method, and of applications of the general linear hypothesis, are to be found in Li, *op. cit.*, and in Robert A. Bottenberg and Joe H. Ward, Jr., *Applied Multiple Linear Regression* (Lackland Air Force Base, Texas: 6570th Personnel Research Laboratory, Aerospace Medical Division, Air Force Systems Command, 1963). The latter is especially valuable from the standpoint of instructing students and may be obtained from the U.S. Dept. of Commerce, Clearinghouse for Federal, Scientific and Technical Information, Springfield, Virginia 22151, by referring to the number AD 413 128 and enclosing a check for $2.75 made out to "National Bureau of Standards, CFSTI."

the relative importance of variables in the manner of the examples we have cited. Goldberger's comment on this practice is one of the best we have run across, and yet, we feel, it is worded not strongly enough: "The whole point of *multiple* regression . . . is to *try* to isolate the effects of the individual regressors, by 'controlling' on the others. Still, when orthogonality is absent the concept of the contribution of an individual regressor remains inherently ambiguous."[26] This warning, furthermore, applies not just to regression analysis but to all the known control procedures, including those for categoric data and for experiments.

At best, the foregoing remarks will prove helpful in avoiding technical errors. There is little that can be said, unfortunately, concerning the avoidance of theoretical errors. Even though investigators conscientiously consider what level of distinctiveness would be appropriate for an analysis, the possibility of committing all of the above fallacies will probably remain as an outcome of bad theorizing. Things regarded as similar may not be similar, and things regarded as different may not be different. Understanding means correct understanding.

JOHNS HOPKINS UNIVERSITY

[26] Arthur S. Goldberger, *Econometric Theory* (New York: John Wiley & Sons, 1964), p. 201. We are grateful to Clinton S. Herrick for bringing this passage to our attention.

Are Sociologists Incomprehensible? An Objective Study

Frances E. Cheek and Maureen Rosenhaupt

ABSTRACT

The incomprehensibility of sociologists has long been a favored target for criticism from both their scientific colleagues and the lay public. In this study an attempt was made to test the validity of this charge in an objective fashion

The comprehensibility of the journal articles of six scientific disciplines—sociology, experimental psychology, psychoanalysis, biochemistry, physiology, and pharmacology—was examined by means of the cloze procedure. Two-hundred-word passages were abstracted from the discussion sections of fifteen articles from each of the six disciplines, and fifteen raters were each asked to guess the deleted words from six disciplines.

Psychoanalysts were best predicted, followed by biochemists, pharmacologists physiologists, sociologists, and experimental psychologists, in that order, though an analysis of variance showed no significant differences in predictability among the disciplines In order to examine the sources of prediction error in the six disciplines, correctness of the deleted words in relation to word familiarity, frequency of usage, grammatical form, and derivation was examined.

A few sociologists write the best English they are capable of writing, and I suspect that they are the best men in the field There is no mystery about them. If they do wrong, their mistakes can be seen and corrected Others, however—and a vast majority—write in a language that has to be learned almost like Esperanto. It has a private vocabulary which, in addition to strictly sociological terms, includes new words for the commonest actions, feelings, and circumstances. It has the beginnings of a new grammar and syntax, much inferior to English grammar in force and precision So far as it has an effect on standard English, the effect is largely pernicious.[1]

In the face of such criticism of their language, here succinctly expressed by Malcolm Cowley and frequently and with never-failing enthusiasm offered by both the public and the scientific community, sociologists have experimented over the years with a variety of techniques of defense.

Of these, denial has been one of the most common. It is reported by his former students that Professor Robert Merton's anguished comment upon entering the classroom shortly after the publication of Mr. Cowley's article quoted above was, "They are *still* beating a dead horse."

Denial has also appeared in masked form. Most sociologists will admit, among themselves anyway, that in fact some sociologists are quite incomprehensible; however, the majority, including of course themselves, do not fall into this group. Regrettably, they feel, others tend to take the behavior of the minority as being typical of the whole profession.

A third, and somewhat more imaginative, defensive move has been analysis of the context in which such critical attacks occur. It has been most gratifying for sociologists to point out that a rising but still low status group will often bear the brunt of attack from those already established. Frequently, this attack will take the form of ridicule directed toward the rising group's supposed aping of the manners of its betters. Thus, sociology has served itself in its own defense.

On the other hand, one sociologist at

[1] Malcolm Cowley, "Sociological Habit Patterns in Linguistic Transmogrification," *Reporter* (September 20, 1956).

least has publicly castigated his colleagues for their language. In an address at a meeting of the American Sociological Association in 1960, George Homans suggested that "the big words are used in order to help make theory prestigious"[2] and urged sociologists to use everyday language or at least language with concrete references.

In refutation, two sociologists, Hagstrom and Selvin, have called this an unsatisfactory solution, pointing out that while "we must avoid that kind of superficial generalization which assumes identity among different things simply because they are called by the same names, we cannot do this by using everyday language or language with apparently 'concrete' references. Everyday language is itself abstract, and the attempt to do without general concepts makes generalization impossible."[3]

Homans thus takes the position that the language of sociologists is phony and used for irrelevant purposes, a position not unlike that of the public and the scientific community. The official sociological line, expressed by Hagstrom and Selvin, is that the special language is needed to refer to the subject matter of this new science.

Despite continuing controversy as to whether sociological language is indeed overly complex and therefore incomprehensible, it has been very difficult to resolve the matter in an objective fashion. Happily, an instrument which seems ideally suited to this purpose has recently been developed, namely, the cloze procedure.[4] This is a measure of the predictability of verbal information in which raters are asked to identify words deleted from a verbal passage, the cloze score being the ratio of correctly identified words to total words deleted. Studies have indicated a close relationship between cloze scores and the comprehension of reading material.[5] According to Osgood, this measure serves as "an index of overall correspondence or commonality between the language systems of different individuals."[6]

Investigators have made use of the technique in a variety of contexts: to differentiate the speech of aphasics from that of normal subjects,[7] to gauge the effects of psychotherapeutic interaction on predictability,[8] to differentiate normal from schizophrenic speech,[9] and to differentiate drug-influenced speech from normal speech.[10]

This paper reports a study in which the cloze procedure was used to examine objectively whether sociologists are indeed more incomprehensible than their scientific

[2] George Homans, "Calling Things by Their Right Names." Paper read at American Sociological Association Meetings, New York, September, 1960.

[3] Warren O. Hagstrom and Hanan C. Selvin, "Two Dimensions of Cohesiveness in Small Groups," *Sociometry*, XXVIII (1965), 30–43.

[4] Wilson L. Taylor, "Cloze Readability Scores as Indices of Individual Differences in Comprehension and Aptitude," *Journal of Applied Psychology*, XLI (1957), 12–26.

[5] *Ibid.*; Earl F. Rankin, "An Evaluation of the Cloze Procedure as a Technique for Measuring Reading Comprehension" (unpublished Ph D. dissertation, University of Michigan, 1957), p. 57.

[6] Charles E. Osgood, "The Representational Model and Relevant Research Methods," in I de S. Pool (ed), *Trends in Content Analysis* (Urbana: University of Illinois Press, 1959), pp. 33–88.

[7] Samuel Fillenbaum and Lyle V. Jones, "An Application of 'Cloze' Technique to the Study of Aphasic Speech," *Journal of Abnormal and Social Psychology*, LXV (1962), 183–89.

[8] Stanley Feldstein and Joseph Jaffe, "Language Predictability as a Function of Psychotherapeutic Interaction," *Journal of Consulting Psychology*, XXVII (1963), 123–26.

[9] Kurt Salzinger, Stephanie Portnoy, and Robert S. Feldman, "Verbal Behavior of Schizophrenic and Normal Subjects," *Annals of the N.Y. Academy of Sciences*, CV (1964), 854–60.

[10] Kurt Salzinger, Stephanie Pisoni, Robert S. Feldman, and Pauline Bacon, "The Effect of Drugs on Verbal Behavior." Paper presented at American Association for the Advancement of Science symposium, Denver, 1961; Gilbert Honigfeld, "Effect of an Hallucinogenic Agent on Verbal Behavior," *Psychological Reports*, XIII (1963), 383–85; Marianne Amarel and Frances E. Cheek, "Some Effects of LSD-25 on Verbal Communication," *Journal of Abnormal Psychology*, LXX (1965), 453–56.

brethren. Passages from the journal articles of six disciplines, three behavioral (sociology, experimental psychology, and psychoanalysis) and three biological (biochemistry, physiology, and pharmacology) were studied. Further, prediction error in the six disciplines was related to word familiarity, frequency of usage, grammatical form, and word derivation.

METHOD OF PROCEDURE

SELECTION OF THE SAMPLE PASSAGES

Research scientists holding Ph D. or M.D. degrees, representing the six disciplines, were asked to suggest journals representative of their fields. The following were suggested and used as sources:

Sociology: *American Sociological Review*, October, December, 1964; April, June, 1965.
Experimental psychology. *Journal of Experimental Psychology*, February, 1962; July, 1965.
Psychoanalysis: *International Journal of Psychoanalysis*, January, April, 1965.
Biochemistry: *Biochemical Journal*, April, August, 1965.
Physiology: *Journal of Physiology*, September, 1965.
Pharmacology: *Journal of Pharmacology*, August, September, 1965.

Sample passages were taken from the discussion sections of the articles. As these contain the thinking of the investigator with regard to the findings or ideas he has presented, it was felt they would provide a suitable setting in which to examine comprehensibility.

The first two hundred words from the discussion sections of fifteen articles from each of the six disciplines were used. In the case where the discussion began with a summary or included many figures, formulas, or proper names, the first two hundred words free of such matter were taken. All articles were included except those without discussion sections or some acceptable alternative (comments and so forth) and except those in which many figures, formulas, or proper names appeared.

To eliminate possible bias, the research assistant who selected the passages had not been trained in any of the disciplines to be studied (she had completed high school in England and then did editorial work for many years).

PREPARATION FOR THE CLOZE PROCEDURE

The two-hundred-word samples were then prepared by deleting every fifth word and substituting spaces of uniform length. Wherever the fifth word was a proper noun, a number, or a chemical formula, the next word was deleted with a corresponding number of words added to the passage, so that the last (fortieth) blank was always followed by four words.

For instance, one of the sociological passages prepared for rating appeared as follows:

For Weber such contemplative —— with its emphasis on —— art of appreciation is —— of the ends men ——. It is an end —— led Burckhardt to reject —— civilization and its belief —— progress Similarly, for Tolstoy —— man always looks forward —— is never at peace, —— even in death which —— a pointless instant in —— progress of a world —— of God. Weber respected —— position but did not —— it For him intellectual —— was as valid an —— of knowledge as contemplation. —— his view honesty demanded —— men recognize the void —— a world without God —— well as the ambivalence —— all gains made in —— name of progress. He —— that today scientists are —— to the advancement of —— but do not ask —— ends this knowledge will ——, because increased "technical mastery" —— to them a self- —— good. In the modern ——, increasingly a world of —— technical specialists, contemplation and —— clarity for their own —— are at a discount. —— these conditions in his ——, "Science as a Vocation," Weber —— to preserve the integrity —— contemplation, intellectual clarity, and —— pragmatic approach to the —— of knowledge, and yet

An example of a basic science passage prepared for rating was as follows:

The present experiments indicate ——— anaesthesia with sodium pentobarbitone ——— the circulatory effects of ——— of the carotid sinus ——— aortic nerves partly by ——— the cardiac output, and ——— by exaggerating the rise ——— blood pressure, as judged ——— — the effects of sham ———. However, the effects of ——— do not explain the ——— reports in the literature ——— the effects of section ——— these nerves on cardiac ———. An increase in cardiac ——— has been observed in ——— animals by some workers, ——— others have not observed ——— effect under apparently similar ——— of anaesthesia. In unanaesthetized ——— acute carotid occlusion has ——— been without effect on ——— output, but the cardiac ——— has increased following constriction ——— the brachiocephalic and subclavian ———. In these experiments the ——— of cerebral ischaemia complicates ——— interpretation of the mechanism ——— action.

The large variation ——— results obtained in different ——— may be related to ——— degree of withdrawal of ——— arterial baroreceptor impulse traffic. ——— present experiments, together with ——— findings of Bing et ———, indicate that the cardiac ——— only increases by about 20% ——— complete interruption of the ——— pathways. Hence, no significant ——— in cardiac output would ——— expected in those series. . . .

Fifteen booklets were then put together, each containing six samples, one sample from each of the six disciplines represented. The order of presentation of disciplines was randomized in each booklet. Each rater thus filled in six samples, including one sample from each discipline, and each rater filled in a different set of six samples.

THE STUDY OF FAMILIARITY OF THE DELETED WORDS

Fifteen booklets were also prepared which included for each rater all the deleted words from the six samples which she would rate. Four categories of degree of familiarity were proposed, as follows:

1. Am familiar with this word, use it frequently.
2. Am familiar with the word but use it infrequently.
3. Recognize the word but am not sure of its meaning.
4. Have never seen or heard of this word before.

Each rater was asked to indicate her degree of familiarity with all the words she guessed with the cloze procedure.

THE RATERS

It was decided to examine the comprehensibility of the passages to a layman group. High school students were selected as representative because they had not received advanced specialized training in any of the disciplines under consideration.

The raters were fifteen female students (thirteen seniors, two juniors), aged sixteen and seventeen, from a local private day school rated one of the highest in academic excellence by the Association of Independent Schools.

PROCEDURE

In a group session, the raters were told that their work sheets would remain anonymous and were given the following introduction to the study: "This is a study of scientific language. It is *not* a test of your own vocabulary; we are interested rather in certain characteristics of scientific language. There are two parts to the study. In the first part you will be asked to guess some missing words in written passages. In the second part you will be asked to indicate your degree of familiarity with a list of words. You will receive the first section now; when you have finished it, you will be given the second section which should have the same identifying number."

The instructions for Part I, "The Cloze Rating," which then followed, were as follows: "On each of the next six pages of your booklet is a sample of scientific language. You will notice that every so often there is a blank, every fifth word has been left out. Your job is to fill the blank with the word you think will make the most sense. The missing words are *not* numbers or proper names. This is very difficult and often you will have to guess. Do the best

you can. It is *very important* that you fill in all the blanks. Work as quickly as you can, but there is no time limit."

The raters were also instructed to rank order the six samples they had rated in terms of ease of predictability before handing in Part I.

In Part II, "The Study of Familiarity," each rater was asked to indicate her degree of familiarity with the words she had guessed in Part I in terms of the four categories mentioned earlier.

The average time taken for Part I, "The Cloze Rating," was fifty minutes; the average for Part II, "The Study of Familiarity," was ten minutes.

ANALYSIS OF THE DATA

For each sample passage, the raters' rankings of ease of prediction were available. The number of correct guesses per passage was obtained, and the number of familiar ("am familiar with this word and use it frequently or infrequently") versus unfamiliar ("recognize the word but don't know its meaning" or "have never seen or heard of word before") words per passage was counted.

Using one-way analyses of variance, the differences between the six disciplines in terms of raters' rankings of ease of prediction, correct guesses, and word familiarity were examined.

In order to study the relationship between predictability and the characteristics of the deleted words, the deleted words were characterized in terms of correct versus incorrect guesses, frequency of occurrence in terms of the Thorndike-Lorge count (col. L),[11] grammatical form, and derivation.

RESULTS

RATERS' RANKINGS OF EASE OF PREDICTION, WORD FAMILIARITY SCORES, AND ACTUAL PREDICTABILITY SCORES FOR THE SIX DISCIPLINES

Table 1 shows the mean ranking of ease of prediction by fourteen of the raters (one rater did not rank the disciplines as instructed), the mean word familiarity score (number of deleted words familiar to the rater and used either frequently or infrequently), and the mean number of correct guesses for the six disciplines.

The samples from psychoanalytic journals were seen by the raters as easiest to predict, followed by physiology, sociology, experimental psychology, biochemistry, and pharmacology, in that order. The one-way analysis of variance showed no significant differences between the disciplines in terms of ease of predictability ($F = 1.7$; 5 and 78 d.f.).

TABLE 1

MEAN OF RANKINGS OF EASE OF PREDICTABILITY, MEAN NUMBER OF FAMILIAR WORDS, AND MEAN NUMBER OF CORRECT GUESSES FOR THE SIX DISCIPLINES

Discipline	Mean of Rankings of Ease of Predictability	Mean *N* Familiar Words	Mean *N* Correct Guesses
Sociology.	3 5	39 4	12 5
Experimental psychology	3 6	39 4	11 5
Psychoanalysis	2 6	39 6	13 9
Biochemistry	3 9	38 3	13 5
Physiology	3 1	38 4	12 8
Pharmacology	4 3	36 6	12 9
Average	3 5	38 6	12 5

NOTE.—Low rank easy to predict

The word familiarity scores for the passages from the six disciplines followed a pattern similar to the ease of prediction rankings. Thus, the psychoanalytic passages contained the most familiar words, followed by sociology, experimental psychology, biochemistry, physiology, and pharmacology, in that order. The one-way analysis of variance showed the differences between disciplines in terms of word familiarity to be highly significant ($F = 12.2$; 5 and 84 d.f.; significant beyond the .01 level).

[11] Edward L. Thorndike and Irving Lorge, *The Teacher's Word Book of 30,000 Words* (New York: Teachers College Press, Columbia University, 1944).

Now let us turn to the actual predictions. The raters correctly saw psychoanalysis as easiest to predict, and the average number of correct guesses was highest for this group. However, the other disciplines did not follow the same order as the rankings of ease of predictability and word familiarity, the most predictable after psychoanalysis being biochemistry, pharmacology, physiology, sociology, and experimental psychology, in that order. There were no significant differences in predictability between the disciplines when tested by one-way analysis of variance ($F = .63$; 5 and 84 d.f.).

TABLE 2

NUMBERS OF FAMILIAR AND UNFAMILIAR WORDS AND PERCENTAGE CORRECTLY GUESSED FOR THE SIX DISCIPLINES

Discipline	Familiar Words		Unfamiliar Words	
	N	% Correct	N	% Correct
Sociology	591	31 6	9	11 1
Experimental psychology	593	28 5	7	14 3
Psychoanalysis	594	35 2	6	0 0
Biochemistry	575	34 4	25	12 0
Physiology	581	32 5	19	18 8
Pharmacology	551	33 8	49	16 7
Average	581	32 7	19	13 0

What do these findings suggest with regard to the supposed incomprehensibility of sociologists? In the first place, the raters did not see the sociologists as especially difficult to predict when compared to the other scientists, as one might have anticipated from the general complaint that sociological writings are markedly obscure.

Again, though sociologists were not seen as difficult to predict, sociology and experimental psychology were the most poorly predicted of the disciplines, though it is true that the differences in actual predictability among the disciplines were not statistically significant.

The low predictability of sociology and experimental psychology was of interest in relation to the findings regarding word familiarity. In the first place, there was a significant difference between the disciplines in terms of numbers of familiar words used, the sociologists, experimental psychologists, and psychoanalysts using more familiar words than the others. One would expect disciplines with more familiar words to be easily predicted.

Sociology and experimental psychology must therefore suffer from some other potent source or sources of incomprehensibility. It was decided to investigate these sources of incomprehensibility by examining the relation between correctness of prediction and various characteristics of the deleted words in the passages. Four characteristics were chosen for study: word familiarity, which has already appeared to be of interest; frequency of use, which investigators have found to be related to low predictability of words;[12] grammatical form; and word derivation. (Cowley suggested in his article that the latter two might be sources of sociological incomprehensibility.[13])

CORRECTNESS OF PREDICTION IN RELATION TO CHARACTERISTICS OF THE DELETED WORDS

Word familiarity.—The numbers of familiar and unfamiliar words and the percentage of the familiar and unfamiliar words correctly guessed for the six disciplines are shown in Table 2.[14]

[12] Frances E Cheek and Marianne Amarel, "Studies in the Sources of Variation in Cloze Scores II The Verbal Passages," *Journal of Abnormal Psychology* (in press).

[13] Cowley (see n 1 above)

[14] Some of the words seen as familiar in the sociological passages were "asserted," "religious," "political," and "careful"; some of the words seen as unfamiliar in the passages were "methodological," "deviance," "datum," and "typology " In the basic sciences some of the words seen as familiar were "demonstrate," "brain," "adequate," and "experimental"; some of the words seen as unfamiliar in these passages were "synthesize," "anlage," "dendritic," and "hypersensitivity."

As we have already noted, the biological scientists used the most unfamiliar words. Not surprisingly, familiar words were guessed more often than unfamiliar words for all disciplines. Both familiar and unfamiliar words were poorly guessed in the sociological passages as compared with the other disciplines.

As the sociologists used more familiar and fewer unfamiliar words than the biological scientists, one might have expected their passages to be higher in predictability. However, as we now have learned, both their familiar and unfamiliar words were poorly predicted.

Frequency of usage.—We next looked at the frequency of usage of the deleted words in terms of the Thorndike-Lorge count in relation to predictability. Table 3 shows the numbers of deleted words of various frequencies in the six disciplines and the percentage correctly guessed for the various frequencies.[15]

The biological sciences were high in very infrequently used words as well as frequently used words, while sociology and experimental psychology tended to be high in words of medium frequency. Psychoanalysis was low in infrequently used words and high in frequently used words and words of medium frequency.

In general, for all disciplines, frequently used words were easiest to guess and infrequently used words hardest to guess. Both the frequently and infrequently used words of sociologists were relatively hard to guess, while their words of medium frequency were relatively easy to guess.

Thus, the lower predictability of sociologists may relate to the fact that they use fewer frequently used and easily guessed words and more words of medium frequency which are less easily guessed, though they do use fewer infrequently used and poorly guessed words. It is also true that though they use more words of medium frequency, their words of medium frequency tend to be easily guessed compared with the other disciplines.

TABLE 3

FREQUENCY OF WORD USAGE AND PERCENTAGE OF CORRECT PREDICTIONS FOR VARIOUS FREQUENCIES FOR THE SIX DISCIPLINES

Discipline	0–999		1,000–9,999		10,000–500,000	
	N	% Correct	N	% Correct	N	% Correct
Sociology	258	11.2	104	26.0	239	55.2
Experimental psychology	263	7.6	92	21.7	245	53.9
Psychoanalysis	247	9.3	87	29.9	266	60.2
Biochemistry	277	11.6	81	18.5	242	59.9
Physiology	278	13.7	81	21.0	241	60.6
Pharmacology	278	13.7	70	24.3	252	54.4
Average	267	11.2	86	23.7	248	57.4

Grammatical form.—We now looked at grammatical form in relation to predictability in the six disciplines. Table 4 shows the number of words in each grammatical

[15] Some of the words of high frequency of usage (0–999 in the Lorge count) appearing in the sociological passages were "to," "as," "in," and "that"; some words of medium frequency (1,000–9,999) in these passages were "else," "brought," "interests," and "built"; examples of words of low frequency of usage (10,000–500,000) were "rationale," "orientation," "conception," and "deviance." Some of the words of high frequency of usage in the basic science passages were "the," "of," "not," and "with"; examples of words of medium frequency in these passages were "can," "some," "these," and "large"; some words of low frequency of usage were "centrifugal," "filtrates," "tissue," and "baroreceptor."

form for the six disciplines and the percentage of correct predictions for each grammatical form for the six disciplines.

Function words (prepositions, conjunctions, definite and indefinite articles, adverbs of degree, auxiliaries, and copulas) were most frequent, then nouns, adjectives, verbs, adverbs and pronouns; this order held for all disciplines. For all disciplines, function words and pronouns were easier to predict than content words,[16] which conforms to previous findings.[17]

Sociologists tended to be close to the mean or slightly higher then the other disciplines in terms of predictability of all of the grammatical forms except adjectives, on which they were slightly low. However, their lower predictability in general might relate to the fact that they tend to use fewer function words, which are more easily guessed than other words, and more adverbs and verbs, which are not as easily guessed as function words. It is also possible that as their language contains fewer function words, its organization and/or structure are less explicit, and it is therefore less comprehensible.

In his paper, "Sociological Habit Patterns in Linguistic Transmogrification," from which we quoted at the beginning of this paper, Cowley makes some statements regarding the special and invidious use of various grammatical forms by sociologists, with the implication that this usage is associated with their incomprehensibility. Let us now look at some of his charges in the light of the information from Table 4.

TABLE 4

GRAMMATICAL FORMS AND PERCENTAGE OF CORRECT PREDICTIONS FOR THE VARIOUS GRAMMATICAL FORMS FOR THE SIX DISCIPLINES

Discipline	Noun		Verb		Adjective		Adverb		Pronoun		Function	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
Sociology	148	13 5	64	12 5	101	14 9	39	23 1	18	50 0	231	55 0
Experimental psychology	143	11 2	51	5.9	123	13 8	30	23 3	11	27 3	242	52 1
Psychoanalysis	144	13 2	52	5 7	87	17 2	29	31 0	25	52 0	263	57 0
Biochemistry	167	13 8	44	6.8	94	13 8	32	15 6	17	47 1	246	56 9
Physiology	154	13 6	57	17 5	98	18.4	34	29 4	6	33 3	251	55 8
Pharmacology	139	18.0	54	7.4	121	18 2	28	7.1	14	64.3	244	53 3
Average	149	13.9	54	9.6	104	16 0	32	21.9	15	48 4	246	55 0

First, Cowley charges that sociological language is characterized by a preponderance of nouns over all the other parts of speech, that indeed it is "gritty with nouns like sanded sugar." Cowley says that this occurs largely because sociologists have a tendency to use nouns as other parts of speech, but he implies that sociologists tend to use too many nouns in general. Our present examination of grammatical forms suggests, on the other hand, that sociologists do not tend to be especially prolific with nouns; their use is close to that of the mean for all disciplines. Moreover, the percentage of correctly guessed nouns used by sociologists is only slightly lower than the average

[16] Content words are considered to be nouns (excluding pronouns), verbs (excluding auxiliaries and copulas), adverbs (excluding those of degree), and adjectives (excluding articles) (Charles C. Fries, *The Structure of English* [New York: Macmillan Co., 1949]).

[17] Murray Aborn, Herbert Rubenstein, and Theodor D. Sterling, "Sources of Contextual Constraint upon Words in Sentences," *Journal of Experimental Psychology*, LVII (1959), 171–80. See also Taylor, *op. cit.* (see n. 4 above).

percentage of correctly guessed nouns used by all disciplines.

Cowley also suggests that the use of pronouns in sociological language is exceedingly sparse. However, our figures show that sociologists use more pronouns than the average for all disciplines, while the percentage of pronouns correctly used by sociologists is also higher than average.

Again, Cowley states, "the neglect and debasement of the verb is another striking feature." However, it is clear from our figures that in fact sociologists tend to use more verbs than the average for all disciplines; moreover, the percentage of verbs correctly used by sociologists is higher than average.

Derivations.—Cowley has also suggested that sociologists are guilty of inflating or "transmogrifying" meanings that could be clearly expressed with simple words derived from Old English or Anglo-Saxon than by the use of a large proportion of abstract words, most of them built on Greek or Latin roots. He reports that upon counting derivations in a passage from the *American Sociological Review*, he found 49 per cent of its words derived from foreign or classical languages, which he says compare unfavorably with textbooks of advanced chemistry or mathematics, which are said to contain only 40 per cent.

Table 5, which shows the percentages of words derived from Old English and Anglo-Saxon and of words from foreign or classical languages and/or of mixed derivation among the deleted words of the six disciplines, and also the percentages of each correctly guessed, will enable us to examine the validity of this charge.

The average of words from foreign or classical languages for all disciplines is 42.1 per cent, which is close to the figure Cowley has reported for chemistry and mathematics. However, the sociologists use only 41.7 per cent of such words, which is close to average.

TABLE 5

PERCENTAGES OF DELETED WORDS DERIVED FROM ANGLO-SAXON AND OLD ENGLISH AND FROM FOREIGN OR CLASSICAL LANGUAGES AND OF MIXED DERIVATION, AND PERCENTAGES OF EACH CORRECTLY GUESSED FOR THE SIX DISCIPLINES

Discipline	Anglo-Saxon and Old English		Foreign, Classical, and Mixed Derivation	
	% Deleted	% Correct	% Deleted	% Correct
Sociology	58 3	45 7	41 7	10 8
Experimental psychology	58 5	41 6	41 5	10 4
Psychoanalysis	60.5	51 0	39 5	10 1
Biochemistry	56 2	50 7	43 8	9 9
Physiology	57.8	44 7	42 2	14 1
Pharmacology	56 2	46.6	43 8	14 6
Average	57.9	46.7	42.1	11 7

Thus, the presence of an excess of words from foreign or classical languages does not appear to account for the incomprehensibility of sociologists. However, it is true that such words are harder to guess than words derived from Anglo-Saxon and Old English. Only 11.7 per cent of these words as opposed to 46.7 per cent for Anglo-Saxon or Old English are correctly guessed. Sociologists tend to be low in predictability both on Anglo-Saxon and Old English

words and on words from foreign or classical languages, in comparison with the other disciplines.

DISCUSSION

While the purpose of this study was to provide objective information regarding the comprehensibility of sociologists, it must be confessed that underlying this was a hope that sociology might at last be vindicated. It seemed entirely reasonable to suppose that the sociological passages would prove much easier to predict than, for instance, those of the pharmacologists. Hence it was with considerable gloom that we became aware of our results. Merton accused Cowley of "beating a dead horse" in attacking the language habits of sociologists. Had we been bitten by a dead horse?

On the one hand we could take comfort from the fact that there were not statistically significant differences in either the raters' rankings of ease of predictability or the actual predictability of passages from the six disciplines. However, if the disciplines were rank ordered in terms of raters' rankings of ease of predictability and also of actual predictability, while the sociological passages were not seen as more difficult to predict they were among those least easily predicted. Also, as the sociologists used significantly more easily predicted familiar words, it would seem that they ought to have made a better showing; therefore, some potent source or sources of unpredictability must be operative.

Attempts to track down these sources proved suggestive rather than definitive. While the sociologists did use few poorly guessed unfamiliar words compared with the biological scientists, both their familiar and unfamiliar words were hard to guess, apparently nullifying this advantage.

The analysis in terms of frequency of usage showed that the sociologists used fewer easily guessed, frequently used words and more less easily guessed words of medium frequency of usage, which would tend to make them less predictable than the others. However, going against this was the fact that they also used fewer poorly guessed, infrequently used words. Moreover, their words of medium frequency tended to be easily guessed.

The grammatical-form analysis suggested that the sociologists might be low in predictability as a result of using fewer easily guessed function words. Also, the low frequency of function words could be responsible for making sociological language less comprehensible if the use of fewer function words tends to be associated with less clearly organized or structured language.

Cowley's accusation that sociological language is obscure in terms of its containing many nouns, few pronouns, and few verbs was not confirmed by the data. Nor did it appear, as he had claimed, that sociologists used words derived from foreign and classical languages in overly lavish fashion. On the contrary, they proved close to the average of the disciplines studied in their usage of such words.

It would seem then that while these findings tended to give some support to the charge of Cowley and others that sociological writings are obscure, they did not similarly support the hypotheses Cowley has offered to explain this obscurity. While this study has been exploratory, we would like to venture a hypothesis as to another possible source of sociological incomprehensibility which the findings suggest.

The hypothesis derives from our findings with regard to frequency of usage in relation to correctness of prediction. The biological scientists tend to use many frequently used words and a few infrequently used ones. Perhaps in becoming "scientific" they retain a simple form of language ("the," "of," "in," and so forth) but adopt a few technical, and therefore obscure, terms ("biogenetic," "hydrolysis," "axons," and so forth). On the other hand, sociologists use fewer frequently used words ("to," "in," "at," and so forth) and infrequently used words ("grossly," "decadence," "opportuni-

ty," and so forth) than biological scientists, but more words of medium frequency ("might," "both," "same," "more," "shows," and so forth). It may be that, in becoming scientific, sociologists develop a more complex *form* of language in which they employ medium-frequency words, and hence become incomprehensible.

Cowley suggested in his paper, possibly facetiously, that the language of sociologists—and he was referring particularly to the grammar of sociologists—ought to be the subject of intensive research by the staff of a very well-endowed foundation. The surprising and unexpected results of this exploratory study, limited by the small numbers of disciplines, articles and passages studied, by the few raters used, and by the nature of the group from which the raters were drawn, suggest that indeed further studies of this sort might be of interest and value.

In the first place, replication with a larger sample would check the validity of the present findings. Further, it would be of interest to find out how comprehensible sociologists, and other scientists, are to themselves and to one another, as well as to the lay public. Finally, our findings suggest that the sources of incomprehensibility ought to be carefully investigated. If it is not the presence of unfamiliar technical words, as in the biological sciences, what makes sociological language incomprehensible?

Bureau of Research in Neurology
and Psychiatry
Princeton, New Jersey

BOOK REVIEWS

Persistence and Change: Bennington College and Its Students after Twenty-five Years. By THEODORE M. NEWCOMB, KATHERYNE KOENIG, RICHARD FLACKS, and DONALD P. WARWICK. New York: John Wiley & Sons, 1967. Pp. 292.

This is several books in one The first is a follow-up study in the 1960's of the Bennington alumnae whom Newcomb had studied in their Bennington careers in the early years of the college, 1935–39. The second is a study of the subcultures, the socialization, and the presumptive impact of Bennington today. Third, and briefly, there is a comparison of first-generation alumnae and present undergraduates in terms of political attitudes (Benningtonians today are less political, more aesthetic), reading habits, and other values and attitudes (contemporary Benningtonians are generally more cynical and less civic). This reviewer would advise beginning the book with Part III—"The College Community in the Early 1960's."

Bennington today attracts many students who come prepared for its permissiveness, unconventionality, and radicalism; correspondingly, Bennington itself has perhaps less impact on them than the more dramatically offbeat early Bennington did on its students As Newcomb's earlier study noted, it drew its girls in the direction of political and cultural liberalism represented by its faculty and student leaders. Today, leadership is itself in disrepute; the most admired students are those whom Richard Flacks terms "Creative Individualists," but these are sociometric stars only in a limited network, and there is nothing like the college-wide popularity of an earlier day. On the contrary, there are for the first time subcultures enclaved in several of the residential houses, including a "collegiate" one which defends its members against the prevailing norms which view anything suburban or middle class as "Smithy," preppy, and social. This group rejects the values of both (somewhat anarchic) individualism and intellectuality; those termed "The Scholars" are referred to as "Apollonians" and are not especially individualistic; and the "Wild Ones," who are the least likely to be Republicans, are underclassmen who at least postpone intellectuality and the drive to become Creative Individualists.

Perhaps the most subtle operation in the book is in the distinction teased out of the data between those social or preppy types who belong to the collegiate subgroups, and those who are simply deviant and isolated. The boundary is established by sociometric analysis, showing not only that the openly collegiate are collegial, live together, and choose each other as friends, but are also defiantly aware of what they are; in contrast, the deviant isolates are scattered in locale, have friends from various subgroups, admire the Creative Individualists, and do not perceive themselves as deviant, though in fact they are This leads to their changing toward the Bennington norms, having no protection against the majority, and being not at all pulled toward the collegiate subculture, whose values on entrance they shared

What seems missing here—and of course no book can do everything, even to please a reviewer—is any ethnographic material to supplement the questionnaires and attitude scales. The Bennington that appears here is quite unreal Flacks's typology is hinted at in some quotations, but it never becomes clear how creative or idiosyncratic the Creative Individualists really are or what the scholars are scholarly about; we sense tension (as this reviewer has occasionally done on visits) but not its complex qualities. The questionnaires may have led students to focus on themselves and each other, but it is, nonetheless, strange to read a book about Bennington in which not a word is said about faculty models—about the impact of a Stanley Edgar Hyman or a Bernard Malamud or a Howard Nemerov or of some of the gifted musicians and artists; or about the intense transferences in a community

less isolated than in the 1930's; or about the attachments formed and loosened in the long winter term away from the college; or about the role Williams College occupies in fact and folklore (though it is clear that dating is regarded as very square) as against its role in an earlier day. Moreover, while the authors say that girls now arrive at Bennington already familiar with what it signifies without even having applied to the Seven Sisters, this is insufficient. Bennington does have its distinctive aura, and it draws many girls who could not imagine themselves at either the Big Ten or the Seven Sisters. But the book does not take account of the fact that Bennington is the least academically selective of the leading women's colleges (less than half its applicants graduate in the top fifth of their secondary-school classes) and that many doubtless arrive who in high school regarded themselves as defiant and deviant but, as in fact much material in this book makes clear, are shocked when they encounter the solipsism, the lack of tolerance for those defined as square, and the often messy conduct in a community incapable of concealment. Likewise, this reviewer misses any discussions of ethnicity in the faculty and student body (two-fifths of the students are Jewish) and of the bearing of this on the subcultures and the extracampus connections of the students.

However, Flacks and Warwick do discuss the difficulties facing those who arrive with the proper degree of unconventionality in personal style but who then are faced with the problem of further individuation in terms of an ideal of uncomplicated creativity, uninhibited analytical power, and, of course, total candor. Flacks finds it surprising "that the Leaders should tend to see themselves as somewhat divergent from the Bennington norms on many traits," but to be a leader at Bennington is precisely not to be a Creative Individualist, or a Scholar, or a Wild One; it would be regarded as too muscular and assertive, too Girl Scout-like, yet soft. He does observe that the formation of a collegiate subculture may be a defense against the "militantly anti-housewifery" norms of Bennington, the sort of defense satirized in *The Feminine Mystique*.

One would like to know more about those deviants who had no such collective shell. Were they the unattractive, undatable drips, quiet, pious, and mousy, studious without being known as Scholars, who found friendships through their academic majors or through extracurricular activities, but who were not sufficiently binding and like-minded to form a definable cadre in a house? (I am often frustrated that interviewers are not asked to get snapshots or to make subjective judgments about the relative attractiveness of respondents.)

The follow-up study of earlier alumnae surmounts all the problems that Sheldon and Eleanor Glueck faced in following up in later life those they had studied as juvenile delinquents. Newcomb deserves great credit for this example of continuities in social research. He demonstrates that the alumnae on the whole did find spouses and clusters of friendship to sustain the liberal outlooks toward which the majority had migrated while undergraduates. Newcomb had the ingenious idea of comparing his respondents with their sisters and sisters-in-law who did not go to Bennington and reports: "The 1964 responses show that Bennington graduates resemble non-siblings who are also graduates more closely than they resemble their own sisters who were non-graduates." He is able to show that this reflects not self-selection among siblings who choose Bennington but the lasting impact of Bennington itself. By contrasting Bennington alumnae with other college graduates of similar social class background, it also becomes clear that the former remain activists and committee workers, though now with their children grown are often eager for more professional and less amateur employment.

Quotations from interviews illustrate the diverse trajectories of the early pioneers, the importance of their finding supportive husbands, the way in which—a bit like many returned Peace Corps volunteers today—they kept in touch with fellow-alumnae who were less conservative than their families, neighbors, and friends. For some, political cross-pressures have served to neutralize activism; for others, events since graduation have activated quiescent liberalism. Newcomb states the truism: "The case histories, viewed together, demonstrate that it is difficult to develop any single formula that will explain and describe the development of each person's political attitudes since she left college." At best, it would be difficult, even if one could have explored

non-marital involvements or seen whether, as I am inclined to suspect, many of this first Bennington generation were downwardly mobile in their marriages—at least as this would have been judged by their parents' generation.

What would today be the moral equivalent of the Bennington of the 1930's? As sophistication and precocity spread, it seems hard for any college which draws a largely precocious, avant-garde body of students to form them in its own ideal image. This is not to deny the impact of today's Bennington on students' self-consciousness and self-esteem but to suggest a wider range of possible effects and a greater complexity in analyzing these effects. The newer generation of alumnae will move out into the world with fewer shared norms, and for a great many the gap between Bennington and that world will be less dramatic. One can hope that Newcomb and his collaborators will follow them up in the 1980's to see what may then distinguish them as Benningtonians and to examine the degrees of symbiosis with their new environments.

David Riesman

Harvard University

The Uncommitted. By Kenneth Keniston. New York: Delta Publishing Co. Pp. viii+500. $2.45.

Every so often, major breakthroughs occur in the study of contemporary character. These typically have been the discoveries of "character types" whose existence helps illuminate, in ways not previously clear, what the society is doing to its members and, in turn, what kinds of individual traits, motives, and aspirations have historical significance for the society. The identification of a new character type has tremendous heuristic value, generating lifetimes of research concerning its measurement, its etiology, its incidence across strata and cultures and time, its rootedness in social structure, and its social impact. Moreover, the identification of character types represents one of the rare occasions when there occurs interfertilization between social science and literature, for, on the one hand, the scientific description of a type leads to discoveries of its literary antecedents and, on the other hand, as soon as a new type gets fixed, one finds it turning up in the novels of the day. The gallery of modern types is becoming richly decorated—Freud's hysteric and compulsive personalities, Weber's entrepreneur Fromm's marketing personality, the authoritarian personality, and Erikson's adolescent Now Kenneth Keniston has added a new portrait—the "uncommitted" or "alienated" youth who might be called, after his prototypic case study, the Inburn personality. The type is identified as a young man who explicitly rejects conventional American values and who refuses adult roles—especially occupational and familial roles. He makes a "cult of the present"; for him life is a restless search for experience, for a breakthrough of feelings for adventure, for expression, for awareness His fantasy life is likely to be rich and to be focused on a yearning for "mystical fusion" or a loss of selfhood "in some undifferentiated state with another or with nature."

Keniston uncovered this syndrome of alienated themes in the course of intensive clinical interviews with twelve Harvard men who had very high scores on a set of scales designed to measure alienation. In addition, he found that these men had in common a certain developmental history—a very deep attachment to mothers who are described as highly sensitive, aesthetic, and frustrated women; a lack of identification with fathers who are psychologically, if not physically, absent and who are seen by their sons as having failed in a fundamental way to realize their deepest aspirations; a sense of isolation from juvenile and high school peers—an isolation traceable not to any overt inability to win peer acceptance but to a developing revulsion from the values and expectations embodied in the conventional youth culture and the educational system.

The content and developmental history of this alienated character type is described in systematic, but nontechnical, fashion in the first half of the book. This description is persuasive on its face, even though none of the methodological apparatus which generated it is presented in any detail (a more technical report on the Harvard research is promised). Its persuasiveness rests largely on its prophetic character. Keniston's data were collected in the late fifties; his subjects were isolated, lonely, and quite invisible. Since then, of course a flourishing student and youth subculture has emerged

and become enormously visible and influential, a subculture whose overt themes and expressive behavior are virtually identical with the covert fantasies and private quests of Keniston's tiny sample. Clinicians are finding little in Keniston's case studies which does not resonate with their own experience with "hippies." Already, as might be expected, at least one best selling novel with an Inburnian central character (see John Hersey's *Too Far To Walk*) has been produced. In short, Keniston's work is already a classic of characterology.

This is not to say, of course, that it is flawless. The second half of *The Uncommitted* is an attempt to describe the cultural and social structural factors which give rise to youth alienation. In what is primarily an essay in social criticism, Keniston draws on Parsons, Riesman, and other commentators to develop the argument that ours is a technological society—that is, one in which the adult male is required to fragment his identity and subordinate his expressive and moral concerns in the service of occupational competence and achievement. A number of useful insights are presented concerning the alienating qualities of such a society, but one gets the feeling that on the whole the thrust of the discussion is overly familiar, its tone unduly moralizing, the argument insufficiently supported by concrete illustration (though it is to Keniston's credit that he is on the whole less banal, preachy, and abstract than most recent writers who have attempted global assaults on Alienation in Modern Society). Substantially, I have little quarrel with his over-all analysis, though it seems to me to be quite weak in locating the structural bases for the prevalence of technological values and for the emergence of alienated styles. Finally, one misses a systematic effort at the theoretical level to link culture and character.

Despite these difficulties, it must be stressed that Keniston's treatment of "alienated students" is absolutely indispensable for an understanding of current trends in the youth culture It is, also, a piece of social research which was written to be read, which is in itself both rare and daring.

RICHARD FLACKS

University of Chicago

Student Politics. Edited by SEYMOUR MARTIN LIPSET. New York: Basic Books, 1967. Pp. ix+403. $8.95.

This ostensible book contains fifteen articles: four on Latin America (by Orlando Albornoz, Kenneth N. Walker, David Nasatir), two on India (Metta Spencer, Joseph DiBona), three on Western cases (Seymour Martin Lipset and Philip G. Altbach on the United States, Paul Seabury on Berlin and Berkeley, Jean-Pierre Worms on the French student union), three under the heading "Comparative Perspectives on Student Politics" (George Z. F. Bereday, Glaucio A. D. Soares, Joseph Ben-David and Randall Collins), and three under the heading "Approaches to the Study of Student Political Behavior" (Lipset, E. Wight Bakke, Altbach).

Fourteen of the articles appeared in a single recent issue of *The Comparative Education Review*. The other appeared in *Minerva*. Resetting them, adding a hard cover, and marketing the lot for $8.95 per copy needs justification. A special run of the *Review* presumably would have attracted reviews like this one—and buyers. Some textual revisions were made, says the editor, but repetitions were not excised, cross-references were not augmented, and nothing was done about the sentence opining that "the instability of student activism in the United States is even more transient than indicated here" (Lipset and Altbach, p. 224). The selections are not touted as the best recent works on a timely topic. They were picked, apparently, because they all emanated from a centrally sponsored research project. They constitute neither a systematic treatise nor a judicious anthology.

Nevertheless, the collection does serve, intentionally or otherwise, to elucidate several subjects. It dispels the lingering illusion that formal education is a conservative force inducting students into a prevailing normative consensus It reminds us that sit-ins, teach-ins, marches, sieges, and mob actions are features of a global and, so to speak, established pattern of behavior. It also illuminates the contrast between hypotheses eliciting research support and hypotheses tested by researchers This contrast is exemplified by recurrent claims that university students play a "significant," "important," "at times crucial" role

in national politics, together with the absence of comparisons between the role of students and the roles of other vocational groups.

Another subject elucidated in *Student Politics* is "co-government," in which students are seated on the highest policy-making councils of their universities. This sort of arrangement seems to be what exponents of "student power" in the United States are beginning to demand. According to Lipset, the record to date shows that co-government breeds intense political activity among students (p. 23, citing R. Havighurst and Robert Alexander but ignoring Seabury's pungent and corroborating testimony in chap. viii). According to Albornoz, co-government in Latin America has been not only a politicizing force but also a disrupting and debilitating force, ravaging academic standards and enabling certain students to become blackmailers, thieves, and terrorists. But, according to Walker, some evidence indicates that co-government can elevate academic standards and also "may contribute to the civilizing of politics, and to the development of democratic norms. . . . The denial of participation by students in university government . . . facilitates a more ideological, utopian political orientation among student politicians" (p. 314).

These direct appraisals (which are much more qualified than I have indicated) are accompanied by some additional, indirectly relevant testimony. Data compiled and/or reviewed by Soares (chap. v) and by Lipset and Altbach (chap. vii) indicate that students who are active politically are ideologically unrepresentative of their peers. They not only feel more strongly about certain issues; they also harbor preferences which contravene those harbored by more passive students. They presumably would be the immediate political beneficiaries if co-government were adopted in the United States. This possibility casts doubt on claims that measures augmenting "student power" would augment or produce intrauniversity democracy.

However, the materials provided in *Student Politics* are by no means conclusive. They might provide a suitable beginning for persons interested in "student power" issues.

Still another subject which *Student Politics* serves to elucidate is what may be called the politics of explication. Some examples may clarify the latter phrase. Glazer reports that radical political ideologies placing great rhetorical emphasis on leveling innovations serve the needs of socioeconomic "development" by "directing youthful energies into those channels most needed by the society." Student ideologues, in Chile at any rate, are exceptionally willing to go out to the hinterlands and "pioneer professional services" (pp. 350–51). Glazer's data support his appraisal. But his version of the needs of "development" is conspicuously selective Glazer does not consider whether student radicals protect or imperil public order, attract or repel foreign capital, promote or impede rationally "developmental" allocations of national resources. Such matters would need to be investigated before one could properly appraise the functional relation of student radicalism to "development." And a final appraisal of student radicalism would presumably involve studying many dependent variables in addition to "development." Glazer's pattern of selective attention might stem in part from a previously established fondness for student radicalism, a fondness inspired by encounters other than in Chile.

Altbach's appraisal is quite comprehensive "Student movements, political and non-political," allegedly play an "important" role in the politics of developing states Although the "nature" of that role is elusive, "student movements" do foster individual emotional gratification, "social change," academic enlightenment, political education, socialization and communication, and social integration (p 92) Now there must be at least a few cases in which "student movements" have fostered emotional turmoil, miseducation, ruptured communication, retrogression, and disintegration Altbach's list of (eu)functions certainly is not justified by his evidence, which (to be courteous) is scanty. His arbitrarily flattering appraisal might conceivably be ascribed to a fondness for certain "student movements" (not named because controversial) and perhaps a desire to counteract arbitrary negations by other commentators.

Lipset affords another, and contrasting, example of the politics of explication. He deals more with the causes than the effects of student political activism. He advances a "major hypothesis of great practical importance": "Intense involvement of students in politics is least likely where their [illegible] have high standards, [illegible] research facilities,

and a teaching staff deeply committed to teaching and research" (p. 36). This hypothesis is related to several others: that student political activism is more extensive and intensive in underdeveloped states, whose universities are of lower caliber; that when professors encourage student radicalism (as they allegedly have done in the United States, far more than is commonly known) they are responding to "status" strains; and that "the intensity of the university student's political activity is in some sense [but 'not necessarily and always'] a measure of the failure of the university as an academic community" (p 5).

Now according to most of the testimony in *Student Politics*, the capitals of student radicalism in most countries of the world are their best universities. Moreover, according to Lipset and Altbach, the main capitals of contemporary student radicalism in the United States are Berkeley, Madison, and Ann Arbor. These universities are said to rank below the Ivy League in standards, facilities, and pedagogical-scholarly commitments—but far above the overwhelming majority of the nation's centers of higher education. Furthermore, sources cited by Lipset and Altbach indicate that the Ivy League universities, together with Chicago and the finer liberal arts colleges—Swarthmore, Oberlin, Antioch, Reed—have furnished an exorbitant share of the civil rights workers, "peace" marchers, and sundry other student political activities. They have differed from Lipset's trio (excepting Chicago, and leaving aside assaults on visiting speakers and recruiters) only in that they have so far been spared the embarrassment of major *internal* upheavals.

On this showing, Lipset's "major hypothesis" becomes extremely suspect. The same may be said for his near-contradictory hypothesis that "student leftism, involvement in civil rights activities, and opposition to the Vietnamese war, are largely associated with the size and quality of university" (Lipset and Altbach, p. 200; the reference to size here seems difficult to reconcile with events at the smaller finer liberal arts colleges). The "major hypothesis" seems plausible *only* if we exclude from attention all forms of student political activism except direct assaults on administration buildings. If we use a broader conception of "student political activism"—as Lipset does in other passages—we would be compelled by the proffered evidence (prematurely, mistakenly) to conclude that high standards, fine facilities, and exemplary professionality trigger student radicalism Why, then, does Lipset affirm the contrary? A plausible answer is one citing individual and professional self-interest Certain cases of "student political activism," Lipset feels, have disrupted the halls of academe, and public reactions threaten to compound the damage. These outbursts must be explained in such a way as to spare the university as academic community. Lipset's "major hypothesis" declares to the taxpayers and alumni that, if they want students to be less radical and rowdy, they must give the universities more money and reverence

Professional academics stand to profit from popular acceptance of Lipset's "major hypothesis," just as New Leftists stand to profit from popular acceptance of the idea that student political activism is generally eufunctional. The urge to reap such profits evidently affects the credibility of versions of the sources, identity, and consequences of this phenomenon.

John D. May
University of Chicago

L'Analyse mathématique des faits sociaux By Raymond Boudon Paris. Librairie Plon, 1967 Pp 464 Fr. 25 00.

Not the first French observer to present Americans to themselves and to his own countrymen, Raymond Boudon has provided a fine account, enthusiastic but not uncritical, of mathematical sociology. He is fascinated by Herbert Simon and Hubert Blalock on the problem of disentangling a social structure from empirically obtained regressions; by the formalization due to Simon of George Homans' model relating feelings of friendliness and engaging in common activity, Lazarsfeld's use of dichotomies to get at causation; Stouffer's intervening opportunities; the treatment of diffusion due to Coleman, Katz, and Menzel. None of these topics is new, and on several there is already a considerable secondary literature. Boudon's contribution is an independent assessment.

"When sociology is more fully developed," said Coleman four years ago, "perhaps a book on social theory can be written in two sections,

labelled 'Dynamics' and 'Statics', or 'Processes' and 'Structure'." Boudon divides his book essentially into such sections. The parts he calls "The Analysis of Causes" and "Dimensional Analysis," the latter including factor analysis and similar work of psychologists and sociologists, mostly concern structure.

Social structure can at best be revealed only indirectly by data, and in many instances no amount of data will suffice to identify the structure When a model is identifiable, the observed reality can be thought of as depending on its parameters in such fashion that, if the parameters were different, the observations would be different. In this situation the parameters can be inferred from the reality with a sufficient number of observations. The model is not identifiable if two or more values of its (hidden) parameters could produce the same visible reality. In principle the point could arise with as few as one variable; Boudon gives convincing examples involving three.

The last section of Boudon's book deals with processes Here the typical mathematical device is no longer multiple correlation and factor analysis, but Markov chains and Poisson processes. Boudon takes up Coleman's way of regarding a simple 2×2 table as the equilibrium condition of a probability process in which individuals are moving among cells. He refers to Goodman's important work on changes in voting intentions and adherence to groups through time; one wishes he had found space to present this in more detail.

With the two substantial books due to Coleman and Boudon, the boundaries of mathematical sociology are becoming clearer. But the contents of the two are by no means identical. Boudon gives more attention to inference in multiple-regression models, Coleman somewhat more to Poisson and other probability processes. Neither pays attention to models recognizing the division of social groups by marital condition, let alone by age and sex, which they would presumably say constitute demography; Lotka and Volterra are mentioned by both but are not effectively incorporated. Boudon does talk about simulation, but on the whole Coleman seems more computer-minded. Boudon tends to concentrate on statistics-related mathematics and omits such contributions as White's to the logic of kinship which have elsewhere made a substantial impression. Both, as the reader with only a smattering of calculus and linear algebra will be glad to note, confine themselves to elementary mathematics.

Facing a corpus including hundreds of articles and now two books, critics of mathematical sociology need no longer content themselves with a priori proofs of its impossibility. They can discuss specific points. The same shift in the locus of debate which has been so helpful in animal ecology, economics, and psychology is occurring in sociology.

NATHAN KEYFITZ

University of Chicago

The General Inquirer: A Computer Approach to Content Analysis. By PHILIP J. STONE, DEXTER C. DUNPHY, MARSHALL S. SMITH, and DANIEL M. OGILVIE. Cambridge, Mass.: M.I.T. Press, 1966. Pp. xx+651. $7.95.

At first glance, this book provides a technological updating of Berelson's classic content analysis tome. From another perspective, it can be viewed as an autobiographic case study in the trend toward "schools" of computer analytic systems.

In both a thorough and responsible fashion, the authors introduce (and serve as a reference work for) automated analysis of textual content. Specific details for the running of these computer programs are available in a second volume from the same publisher. Nonetheless, the general description of the system available in this book is manifold. The first half of the book explains the system—a theoretic redefinition of content analysis, a broad review of this technique's applications, a description of the new computerized approach, a more detailed examination of code construction for the computerized system, a rigorous discussion of this system's reliability and validity, and an extensive presentation of measurement strategies as well as their ramifications—and ends with a useful bibliography. The second half of the book presents sixteen illustrations of the "general inquirer" system in action across many specialties: studies of small groups, political science, personality, clinical psychology, social psychology, cross-culture, and other applications.

Thus, readers of many disciplines may run to purchase this book as a simple cure-all for their manual content analysis ills. The bulk and complexity of the system (as well as of its description) may quickly disenchant them. Should hopes of saving money carry them through this first jolt, they may find that the added costs of editing the text, keypunching it, verifying (or proofreading) it, and having the system adapted to their computer wipes out the frugalities they expected from the computerized system. Should they survive these disillusionments in hopes of gaining closer rapport with their data, they had best be prepared for an inundation of decision-making To gain the perfect coder reliability of the computer, the code must be completely explicated before the machine sees the text. Thus, it is no longer possible to develop sensitive codes through the dialectic interaction between coders and study director during the coding process. The investigator himself must make all these decisions before the fact. He can get some help by using a code (or dictionary of classifications) developed by someone else doing similar work in this area. But such is not without sociological and methodological consequence.

The application of computers to analysis of social science data has refocused "schools" of research. Formerly, similarities of institutions and of research subjects stimulated ideologically similar publications. Today, a similarity of computer analytic systems that transcends institutions and research subjects stimulates ideologically similar publications The introduction of computerized factor analysis systems stressed inductive conceptual models at the expense of deductive ones; computer simulations went to the other extreme, stressing deduction at the expense of induction. The "general inquirer" system represents a "school" near the simulations end of this continuum. From the authorship of this book and its articles as well as from the footnoting, one can easily trace the "school's" sociometrics. The ideological interplay between the values of its members and the expediencies of the system can be seen in the authors' shift to a deductive approach from the traditionally inductive approach of manual content analysis. In the first chapter, the authors reject Berelson's descriptive definition of content analysis for one that places inference above all. The computer system reflects this deductive bias by dictating that theoretically relevant codes be completed before the data can be run through the computer. Inasmuch as the first coding of the text is the most expensive computer run, the system does not lend itself to descriptive trial-and-error reruns. If the social sciences were at a deductive phase of development, few could argue with such an approach. But, of the sixteen studies employing this avowedly inferential technique, fifteen were classified by the authors as "descriptive and hypothesis generating" (p. 240).

Once the investigator is alert to it, this antidescriptive bias should not diminish the system's outstanding qualities. If availability of resources and quantity of text material suggest an automation of your content analysis, the "general inquirer" system is an enormously powerful tool As is argued here, it should not be entered upon lightly, for such commitment to a "school" of computer analysis may well become a way of life.

RICHARD C GILMAN

University of Missouri at St. Louis

The Power Structure: Political Process in American Society. By ARNOLD M. ROSE New York: Oxford University Press, 1967. Pp xix+506 $8 50

"For more than twenty-five years," writes Irving Louis Horowitz in an unexpected Foreword to this book, "Arnold Rose has fused the liberal ethos with the sociological imagination." The sentiment, of course, is accurate, but the surprise is in the source. For Horowitz, although always his own man, is the leader of an enthusiastic band of disciples of the late C. Wright Mills, and the book before us is a comprehensive critique of most of the things that Mills maintained The notion he so vigorously and even belligerently espoused—that the country is controlled by a power elite of "commissars," "warlords," "celebrities," and a "political directorate"—is so fanciful that only a true believer (or a New Leftist) would lend it credence. The facts are quite otherwise—so much so that Rose does not hesitate to call *The Power Elite* "a caricature of American society." The trouble with the Mills theory, abetted by the equally defective studies of

Floyd Hunter, is simply that it is not true. Elites certainly exist in this society, as in every other, but the proposition that they are monolithic, or permanent, or even powerful is one to which Rose has now devoted seven years in an effort to refute. The result is this splendid book, a book which exhibits both a political and a sociological sophistication and which reflects, in addition, the author's personal political experience as a former member of the Minnesota legislature.

Rose begins with an examination of the concept of power. Mysterious as it may be, there are dangers in attempting to find it in informal structures, because, as a matter of fact, there is plenty of it in the formal structure—in the government itself. There is also a temptation to indulge in "the fallacy of infinite regression," to locate power somewhere behind the people who legitimately exercise it and then the people behind the people, and so on. Furthermore, if a hidden and ulterior source is discovered, then we have a conspiracy. If it is not discovered, then the conspiracy must be even more secret and diabolical. The proposition proves itself. The truth, however, is much different. Neither government nor the power that flows through it is mysterious as the elitist theorists contend. Neither the economic elite, nor the military elite, nor the political elite speaks with one voice, and the economic elite in particular has suffered a long series of defeats in this century, especially since the administration of Franklin D. Roosevelt. As a matter of fact, the history of federal legislation since 1932 has been heavily on the side of welfare, social security, and labor, to the discomfiture of the financial community, powerless to reverse the trend. Rose unfolds item after item of evidence and example, including Kennedy's encounter with the steel industry in 1962, and provides a masterful account of the political process along the way. His refutation of Mills would appear to be complete.

One small doubt remains, a doubt to which Horowitz gives expression in his Foreword It may be, after all, that the military-industrial complex about which the gentle General and ineffectual President Eisenhower warned, is relatively powerless on the domestic scene, yet manages to exert an unfortunate influence upon foreign affairs. The United States today is the leading arms merchant in the world and the principal disturber of the peace. On questions like these, the citizens themselves have little to say.

ROBERT BIERSTEDT

New York University

The Intellectuals and McCarthy: The Radical Specter. By MICHAEL PAUL ROGIN. Cambridge, Mass.: M.I.T. Press, 1967. Pp. xi+366. $12.50.

A major rethinking of the pluralist interpretation of American politics is underway. The genius of American politics which so impressed political analysts only a few years ago has shown a demon side. Pride in the peculiar ability of the American polity to respond and meet new challenges with a minimum of violence and destruction of human life and liberty has been replaced by uncertainty about such ability and a recognition of the destructive potential in American society both at home and abroad It is not, after all, isolated fanatics who are devastating the Vietnamese countryside, but well integrated and loyal Americans who are carrying out the orders of popularly elected, legitimate authorities.

Current postpluralist writing is neither as wholesale nor as crude as the challenge presented by C. Wright Mills in *The Power Elite* It is represented by more limited critiques such as Theodore Lowi's "The Public Philosophy: Interest Group Liberalism" (*American Political Science Review*, March, 1967) or Jack L. Walker's "A Critique of the Elitist Theory of Democracy" (*American Political Science Review*, June, 1966) and in some of the work on community politics And it is represented brilliantly in this cogently argued and gracefully written book by Michael Paul Rogin.

Rogin's target is the interpretation of McCarthyism as a pseudoconservative revolt with roots in the agrarian radical, populist tradition Such an interpretation, as Rogin shows in convincing fashion, does an injustice to the evidence on both McCarthyism and the reform tradition. There is less to McCarthyism than meets the eye. Such writers as Hofstadter, Lipset, Bell, Shils, Kornhauser, and others saw McCarthy as the bearer of the radical mission,

threatening—as earlier radical movements did—the established democratic institutions of American society. But Rogin, by a close examination of county voting statistics along with other historical evidence, shows that there was no correlation between support for agrarian radical and support for McCarthy. "McCarthy's support came for the most part from the established groups with which traditional conservatism had been associated It was not a pseudoconservative movement at all, but a genuine conservative one. McCarthy's support at the popular level was the result of the cold and Korean wars in particular far more than anti-industrial sentiments and authoritarian preoccupations in general."

In the effort to force McCarthyism into a pluralist interpretation of extremist politics, Hofstadter, Lipset, and other writers mentioned above have seriously distorted the reform tradition, "refracting American history through the myopia of a traumatized intelligentsia" Populism, Rogin makes clear, was not "anti-industrial," and "its character was democratic, particularly in comparison with the industrializing 'groups' that confronted it." Moral indignation may have been a common feature of both populism and McCarthyism, but it is not peculiar to either. Rather, it is an essential element of American politics in general and of traditional conservatism in particular.

Rogin, like other writers concerned with the limits of pluralism as an interpretation of American politics, gives the theory its due and recognizes his intellectual indebtedness. But his conclusions suggest "that pluralism, without significant refinements, distorts rather than illuminates our understanding of American politics . . The fear of radicalism and the concern for stability, however legitimate as values, have interferred with accurate perception. Thanks to its allegiance to modern America, pluralism analyzes efforts by masses to improve their condition as threats to stability It turns all threats to stability into threats to constitutional democracy. This is a profoundly conservative endeavor." Rogin, in contrast, is ready to entertain the thought that mass movements are "rational forms of organization by constituencies that lack power" His thorough destruction of the theory linking McCarthyism to agrarian radicalism is a major contribution to the revision of current thinking about American politics.

WILLIAM A. GAMSON

University of Michigan

Nation-building and Citizenship: Studies of Our Changing Social Order. By REINHARD BENDIX. New York: John Wiley & Sons, 1964. Pp. xii+314. $7.75.

The "classic tradition" in sociological theory, for example, the theories of Marx, Tönnies, Weber, Durkheim, *et al*, are theories of social change. The particular set of changes to which these theories are addressed are those related to the industrialization of Europe However, the industrial transformation of western European societies was substantially completed when classic theory developed. Therefore, these theories are ex post facto.

Contemporary industrialization and modernization processes offer an opportunity to investigate the utility of these theories not only in the historical present but also comparatively—namely, in the non-European setting. This is the task to which Professor Bendix addresses himself in this important and excellent book

Bendix begins by examining the broad methodological issues involved in such an effort In the opening and conceptual section of the book, he argues for an approach to historical and comparative sociology that is quite valuable Two aspects of this approach are particularly important. First, Bendix asserts that social changes are not a zero-sum phenomenon, that is to say, that the development of the new is not necessarily the displacement and/or eradication of the old Thus, that conception which argues for the substitution of the modern for the traditional, for example, of achievement for ascription, grossly distorts Such an approach fails to take account of the new emerging societal patterns in which elements of old and new coexist, and not only in terms of "residuals," or "holdovers." The error of historical simplification imparts to conceptions of modernization a severely, almost ethnocentrically, stylized point of view. It is difficult, if not impossible, to get from this view of the integrated traditional yielding, to

the reintegrated modern, to the empirical substance of change. Thus, the chance for rich empirical study becomes badly crippled.

Second, Bendix points out that an important source of continuing change in societies is the tension between old and new, or between what exists in a society and what is introduced or developed. Ignoring the continued existence and effect of "traditional" patterns not only sterilizes empirical study at a given time but also distorts understanding of future changes for any given society.

A third important issue Bendix discusses is the problem of how to use classic theory comparatively. It is *not* a matter of retention of the same conceptions and the filling in of new "cases" into the extant categories. Rather, Bendix argues that classic theory can be interpreted as suggesting an over-all scale as well as specific categories. The study of other societies at other historical times is valuable insofar as information permits the modification of the underlying conception by means, in part, of the addition of new categories. Thus, classic conceptions of social organization and change provide a basis for classification of entire societies over time and across cultural boundaries; they do not impose a singular and repetitive outcome upon modernization process, a stylized terminus. Classic theory is thus a bench mark for, rather than a barrier to, continued theoretical developments.

After this initial theoretical section, Bendix analyzes the change from serf to citizen in western Europe and Russia. This is followed by an insightful comparison of the emergence of the modern state in Japan and Prussia. The final chapters deal with the incredible barriers to nation-building in contemporary India. Of course, no single book of this scope is likely to be even throughout. I found the analysis of prerevolutionary Russia relatively weak and the analysis of Indian social organization, and the problem it poses for reformers, particularly brilliant.

The unevenness of Bendix's analysis is caused, I believe, not only by the scope of his undertaking but by some serious problems of methodology that are derived from the classic approach. He has undertaken an almost impossible task, namely, the historical and comparative analysis of authority patterns not as rationalizations of power but, rather, as patterns of reciprocal loyalties. It is the attempt at the analysis of authority as reciprocal patterns of loyalty between the leader and those led that raises the problem. The facts of organization are acceptable evidence for asserting a pattern of power, but surely normative evidence is required for the assertion of loyalty. Thus, Bendix is brilliant with regard to the sheer organizational barriers to nation-building in India. He argues, most persuasively, that the number of separate villages and their isolation from social facilities (e g., schools, post offices, electricity, etc.) make for a situation in which the magnitude of administrative apparatus needed for any national task, let alone nationally directed change, is completely unwieldy. This is classic sociology at its best.

Earlier in the book the attempt to assert value from organizational form is much less persuasive. Thus, on page 56, Bendix, in the course of establishing the existence of traditional authority patterns, asserts: "It is reasonable to assume that for a time the sense and practice of aristocratic responsibility for their inferiors were relatively high, just as the loyalty and obedience of subordinates were genuine." How reasonable is this assertion? The presence of an organizational form does not establish its desirability to those least favored or the morality of those gaining the most benefit.

A firmer empirical basis is needed for the assertion of any given normative practice being associated with any given organizational pattern. Otherwise, "the emperor will continue to be without clothes." The problems of the book are (*a*) the inadequacy of historical data for the empirical demonstration of the normative and (*b*) the inadequacy of organizational data for establishing a normative pattern, even in the contemporary world. In sum, the value component requires empirical establishment, particularly with regard to the meaning and experience of citizenship. This study, by its depth and scope, formulates these issues and provides us with an important place from which to build.

Arnold S. Feldman

Northwestern University

The Concept of Representation. By HANNA FENICHEL PITKIN. Los Angeles: University of California Press, 1967. Pp. vi+323. $7.50.

Political sociologists need to be concerned with representation—and to know what they mean by it. For we are attracted to the study of politics by important decisions in large political systems, and these are typically made indirectly. To understand them, we must know not only the social characteristics of elites and the cleavages of constituencies but the normative and ideological structures that justify one or another sort of relation between representative and constituency.

The relation of "representing" has been variously interpreted. As to who or what is to be represented, it may be persons, interests, or abstract entities. As to the proper means of representing, the initiative may be seen to lie with the constituency or with the representative himself. As to the test of whether representation actually exists, this has been seen to depend on the existence of certain political institutions, on the possession of authority (the view of Weber and of Hobbes), or on the satisfaction of the actual or potential wishes of the citizenry. These diversities of interpretation have important consequences as regards our critique of political institutions and our choice of subject matter for research. Should we study elites, and if so, which ones and which aspects of their lives and their decisions? Should we study popular responses, and if so, should it be opinions as to how the government should be conducted or (as is more prevalent in Britain) reactions to the administration of particular policies that affect the respondents?

This book expounds and analyzes these distinctions with penetrating insight. Its references are not primarily sociological; but, for a sociologist who wishes to reflect on the assumptions underlying the study of representative government, it can be very stimulating.

DUNCAN MACRAE, JR.

University of Chicago

Taming Megalopolis: How To Manage an Urbanized World. Edited by H. WENTWORTH ELDREDGE. 2 vols. New York: Frederick A. Praeger, Inc., 1967. Pp. iii+1158. $9.25 per vol.

This two-volume assemblage of papers attempts to display—and, to a considerable extent, succeeds in displaying—the state of thought in the field which we used to designate comfortably as "city planning" and which now appears as the much less clearly bounded terrain occupied by "experts in urban studies" or "urbanologists," as well as a host of such practitioners as public health specialists, traffic engineers, recreation planners, conservationists, systems analysts, and, of course, sociologists and anthropologists. The editor's brief Introduction states one of the things suggested by the conjunction of varied themes and points of view in the seventy papers included:

> It is becoming increasingly more difficult to talk and write about "the city." Max Weber and Louis Wirth could catalog the city's qualities as opposed to rurality and describe the people and life to be found there. But in the latter half of the twentieth century it is nearly impossible to analyze the city as place; the indeterminancy of this urban area befuddles all careful qualification and quantification, of its form, style and inhabitants. People and their institutions overflow the central city bowl, course through suburbia and the hinterland to coalesce once again into the next urban place. Psychically the presumed urban qualities . . . blanket all but isolated marginal ponds of rurality [p. 3].

So the kind of central focus suggested by words like "urban community" proves to be impossible. Instead, we encounter for the most part papers on the problems of organizing social policy relevant to vast urban regions like that which extends 500 miles from Kittery, Maine, to Quantico, Virginia. There is something on air and water pollution, something on urban transportation systems, something on city parks, something on the nature of American urban politics, something on the impact of central city urban development policies on the poor, papers on state and regional economic planning. Gideon Sjoberg treats the city in history and is joined by several other writers in commenting on urbanization in the context of economic development. There is a thoughtful paper by the Berkeley planner John Dyckman on the articulation between social management and politics in the technical society

and a bland congressional message on "Beauty in America" by Lyndon Johnson. Here and there, the treatment of a more localized theme suggests the various levels at which planners may operate, as in the visual design of a new city in Venezuela or, much more local still, the report of a firm of management consultants on "The Economic Feasibility of the Chestnut Street Mall, Philadelphia."

It is sobering to think of the variety and amount of social data which goes into all this. It is no doubt true that, as Dyckman says (p. 265), "Our social scientists have compiled some of the best social statistics in the world, and have supported these with unexcelled social analysis and a great deal of partial social theory." Indeed, the need to develop systems for storing and processing this mass of social data has been one of the ways in which our urban system has given rise to a new sort of specialist.

To think of what sociology has to say in all this is to suggest an odd train of thought. It is the sociological thinking here which tends to cluster around the notion of community as people interrelated in a local territory. It seems to be with something of a sense of relief at finding oneself on familiar ground that sociologists have discovered the localism and close-knit networks of many urban working-class groups, and it is around this discovery of "urban villages" that sociology has tended to enter the discussions of urban policy.

Taking the papers in these volumes as a sample, one might conclude that the major contributions of sociology to thinking about urban policy has been the depiction of the miseries of poverty and the discovery of "urban villagers" in the path of the bulldozers. This would no doubt be unfair; the sample is inadequate for the generalization. But the conclusion may not be so far wrong It might be worthwhile for sociologists to look at a collection of materials like this one in such a way as to treat it as a collection of data to be processed by the conceptual apparatus of sociology. How adequate is that conceptual apparatus for dealing with megalopolis descriptively and for illuminating the policy problems which arise in that institutional setting? Are not sociologists, in fact, missing some of the action?

LISA REDFIELD PEATTIE

Massachusetts Institute of Technology

Dilemmas of Social Reform: Poverty and Community Action in the United States. By PETER MARRIS and MARTIN REIN. New York: Atherton Press, 1967. Pp. 238. $6.95.

Peter Marris and Martin Rein have written an intelligent analysis of the two major precursors of the community action program of the Economic Opportunity Act of 1964—the Ford Foundation's "grey areas" projects and the demonstration programs of the President's Committee on Juvenile Delinquency Their major theme is that "*because* the projects were trying to give form to so many new approaches at once, they overreached the limits of the role they could play" (p. 228; my italics). These incompatible approaches of the foundation and federal reformers were (1) the co-ordination of urban institutions providing services to the poor, (2) the participation of the client population in program development, and (3) the research and evaluation of these demonstration programs.

Although the authors fail to show that it was the mutual incompatibility of these approaches that limited the effectiveness of these programs, they do explore in considerable detail the problems associated with each of them Thus, even though the commitment to research created political problems in only a few cities (particularly Boston and Philadelphia) and consequently cannot be considered an inherent part of the reformers' difficulties, Marris and Rein criticize deftly the reformers' exaggerated belief in the immediate utility of social science research. The chapter on "Research" should be read by social scientists whenever they are tempted to apply their scholarly apparatus to practical situations. (It is unfortunate, however, that the authors themselves have not taken their message to heart. They apparently rushed their book into print in order to influence policy-makers "before it is too late." To search more leisurely for "accurate judgments" is limiting the sociologist "only" to "scholarship" [p. 3].)

The discussion of the participation of the poor is less satisfactory. Although the authors reveal the dilemmas faced by demonstration projects whenever residents are mobilized to political action, their analysis is too filled with many of the clichés of the Left. They speak without elaboration of the "radicalism of the poor" (p. 218); they attack simultaneously the more conservative goals of community organi-

zation (such as social cohesion, self-help, and social control) as "paternalistic" (p. 168) and the more militant goals of community organization (such as political protest) as "equally manipulative" (p. 169); and they argue without offering any evidence that a "representative of the poor loses many of the characteristics which identify him as one with those he represents" as soon as he achieves "influence itself." Moreover, since the goal of participation was generally a minor theme in these early projects, it cannot be said that it was the incompatibility of this approach with other goals which created a *fundamental* ambiguity for the reformers.

The fundamental stumbling block seems to have been bureaucratic resistance to the innovations the reformers sought, a resistance which reflects, as the authors rightly note, "the interests of the dominant social classes" (p. 45). Although research and client participation were to assist in overcoming such resistance, the major focus of the projects was to secure social change through the provision of money and prestige, which, it was believed, would galvanize public and private agencies to co-ordinate their efforts in an imaginative attack on the needs of the poor. Marris and Rein show that the reformers encountered nearly everywhere organizational resistance which co-ordination could not overcome. The authors argue that the reformers' compulsive concern with comprehensive co-ordination lay at the root of their difficulties. Perhaps; but the authors should ponder the significance of their discussion of the Ford Foundation's initial attempt to secure reform through direct contracts with school systems. Would not direct contacts with one institution lead, in most cases, even more rapidly to the co-optation of the reformers?

One final methodological comment: The authors discuss many programs in several cities in order to illustrate the various difficulties that the projects faced. At no point, however, do they attempt to account systematically for variation in the type and quality of the programs among the cities. At one point they seem to suggest that the apparently greater success in New Haven was due to the greater concentration of power in a reform coalition brought together by the majority. More investigation along lines such as these might have enabled the authors to have stated more precisely the conditions for reform in services to the poor.

Nonetheless, the authors have detailed persuasively the resources available to bureaucracies in the American political system for resisting reforms designed to ameliorate the conditions of the poor. Those interested in community action and institutional reform will find this a stimulating and worthwhile book.

PAUL E. PETERSON

University of Chicago

The Political World of the High School Teacher. By HARMON ZEIGLER. Eugene: University of Oregon Press, 1966. Pp. 160.

The Political Life of American Teachers. By HARMON ZEIGLER Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967. Pp. 149 $4.95.

Harmon Zeigler reports in these two books the findings of his research on the political attitudes and behavior of a stratified random sample of some eight hundred high school teachers living in Oregon. He explores the correlates of such attitudes as political liberalism, adherence to middle class values, patriotism, educational progressivism, cynicism, alienation, need for respect, and attitude toward change. The findings are of the following order: women teachers are politically more conservative, educationally more progressive, and personally less rigid, dogmatic, moralistic, and cynical than men teachers. Educational experience increases political conservatism, patriotism, and educational progressivism but reduces cynicism, alienation, and opposition to change.

The second halves of these books focus more on teacher behavior. Clearly, the best part of both books is Zeigler's discussion of the teacher associations; the female, small-town dominance of these associations and the urban male's susceptibility to union appeals is amply demonstrated—particularly in *Political Life*. Zeigler also describes the degree to which teachers believe they should be free to participate in various kinds of political activity both in and outside the classroom. Finally, Zeigler has in each book a prosaic chapter on teacher perceptions of possible sanctions that may accompany political activism.

The initial publication, *Political World*, reports the research with all the tables, charts, and notes on methodology necessary to permit evaluation of the empirical support for the assertions. Although it is both organized along similar lines and repetitive of many passages in the earlier book, *Political Life* goes beyond *Political World* in interpretation but leaves out most of the supporting data. One overstates the case in saying that the first book presents data without interpretation and the second presents interpretation without data. But this is an overstatement primarily because neither book develops any theoretical argument which the author might use to generalize beyond the correlations presented in the tables. The narrow empiricism of *Political World* is perhaps best symbolized by its concluding chapter, which consists of over one hundred statements of empirical associations without any apparent theoretical framework or more general argument relating these findings to each other. In *Political Life*, Zeigler focuses more on sex differences and develops to some extent the argument that male teachers behave like females because they are engaged in a feminine occupation. But Zeigler's argument that these sex differences are due primarily to the "feminine" perceptions and personalities of male teachers simply cannot carry all the freight it has been asked to bear. For example, is it, as Zeigler argues, a feminine characteristic for downwardly mobile male teachers to be politically alienated?

Perhaps because no theoretical argument was developed to integrate the research findings, Zeiler tends to rely on a critical posture toward the teaching profession as a guide for interpretation. Two examples illustrate his resulting tendency to distort the meaning of the findings. First, he emphasizes the increasing conservativism of teachers as they become more experienced and suggests that this leads poorly paid male teachers to become advocates "of the Radical Right" (*Political Life*, p. 21). He fails to point out, however, that the findings reported in his first book show that teaching experience led to a decline in cynicism and alienation, which other research has shown to be associated with right-wing activity. Second, Zeigler reports that those teachers who are most likely to perceive sanctioning agents as particularly threatening are also the teachers most likely to be political activists. From this he does not conclude that fear of sanctions seems to play but a small role in reducing teacher activism, which, if anything, is what the data shows; he concludes instead that the "over-all impact of perceived sanctions seems to produce docility and conformity in teachers" (*Political Life*, p. 142).

Finally, these books, particularly *Political Life* are poorly written. Not only are the data divorced from interpretation, but the reader is continually confronted with poor punctuation, awkward sentence construction, and peculiar usages of the English language. The manuscripts would have profited from a careful reading by a high school English teacher

PAUL E. PETERSON

University of Chicago

Studies in Ethnomethodology. By HAROLD GARFINKEL. Englewood Cliffs, N J.: Prentice-Hall, Inc., 1967. Pp. xiv+288. $6 95.

If only for the tonic of something different about which one can feel passionately contentious, all sociologists should spend time with this book, which is the first by the man who leads an increasingly large and vocal faction of sociologists who call their work "ethnomethodology" or "phenomenological sociology." The fuss it has already stirred up was more than ever shown at the 1967 ASA meetings, where a separate session given entirely to it drew better than double the capacity assigned. Open hostility to it was countered by charges of suppression; claims that ethnomethodology may supplant most current sociology were countered by joking; bewilderment was widespread. This is vitality.

Although the first chapter is entitled "What Is Ethnomethodology?", readers who do not already know may not find a satisfactory answer there or elsewhere in the book. This is neither another topical specialty nor is it "phenomenology" in the sense that the behavioral sciences have had work typically so designated. Readers will quickly discover that ethnomethodology does not belong to any discipline other than sociology, that it is a distinctive way of dealing with almost any

sociological problem, and that its concepts and the observations they call for are more precise (while not becoming trivial) than those we have become accustomed to.

To discover more than this about ethnomethodology, the reader is left to do an inordinate amount of work. By current operating standards, the book provides a well-developed theory, and Garfinkel includes a good deal of relevant research in support of it. Further, this research is more thoroughly and reasonably connected with the theory than we usually have come to expect, and any sociologist concerned with making this connection less speculative in his own work may profit from these examples. The rub is that these virtues are not at all highlighted, and the reader who is short of patience in grasping the sense of the strange, and often anguished, writing will be justifiably tempted to set the book aside prematurely. A sense of integration is undermined in part because the book is essentially a collection; three of the eight chapters are extraordinarily tightly written, previously published papers, and most of the others are distinctly rambling. Although Garfinkel uses the word "rationality" from the beginning of the book and uses it often, the paper in which he explains his special meaning(s) for it appears as the final chapter. The sentences are usually decipherable. But it is likely to be in the word by word struggle to see what Garfinkel sees that many readers will fall by the wayside to await a translation. For whichever of these reasons the reader may tire, the only course to understanding is to curse and carry on, because there is no other way to understand ethnomethodology, no easy translation into already familiar sociology.

One of the more refreshing features of ethnomethodology is that, while it is a general (i.e., widely applicable) conceptual scheme, it does more than restate what is already known; it actually reconceptualizes a great deal and opens a large number of hypotheses for testing. Once the reader can get inside this way of thinking, he may well find that there is more to get excited about than the current controversy alone.

James Wilkins

University of Illinois
[illegible]icago Circle

Les cadres sociaux de la connaissance. By Georges Gurvitch. Paris: Presses Universitaires de France, 1966. Pp. viii+313. Fr. 20.00

Who now reads Émile Durkheim? Very few Frenchmen. He is studied much more seriously abroad. And the recently deceased incumbent of Durkheim's chair at the Sorbonne, Georges Gurvitch, lies in greater danger of passing into oblivion for some of the same reasons. This is something of a paradox, for incumbents of the most important sociology chair in France exercise enormous authority in professional matters and enjoy remarkable prestige. But while lauded in public, the professor can become despised and ridiculed in private, and with the end of his reign, the despot's books, ideas, and followers may be unmercifully purged by the successor. For intellectual development, the unfortunate consequence is a cyclical pattern and extreme discontinuity. Participants in the system correspondingly begin to feel that no knowledge is firmly grounded when every ten or twenty years another palace revolution takes place.

Today the Gurvitch style is no longer à la mode in Paris, and there is a danger that in a few years his works will be almost entirely ignored. This would be truly unfortunate as, particularly in earlier years, Gurvitch completed a number of studies which, although perhaps not brilliant, represented solid contributions to the history of sociology, sociology of law, social stratification, and typologies of social structure. As a foreign journal can potentially act as a mirror trained on underacknowledged developments in a time of rapid change, it is unfortunate that we are reviewing the present work instead of one of Gurvitch's twenty-two earlier books. (His *Vocation actuelle de la sociologie*, in two volumes, might be consulted for treatment of other topics.) Gurvitch's qualities, however, are not conspicuous in the present work. Revised from notes for a course offered in 1964–65 (he died in December, 1965), this is probably his worst book.

The topic is nevertheless well chosen and is certainly ambitious the relationship between various types of social groupings (*cadres sociaux*) and their corresponding cognitive systems (*systems cognitifs*). The object is not to uncover specific chains of causality, but to portray functional relationships. To do this, a

classification of seven types of knowledge is introduced: knowledge of the exterior world, knowledge of others and of self, common sense, technical knowledge, political knowledge, scientific knowledge, and philosophical knowledge. The importance and character of knowledge falling under each of these headings are then considered for different *cadres sociaux* in twenty-eight brief chapters dealing with social groupings (families, factories, states, churches), social classes (peasantry, bourgeoisie, etc.), and global societies ("archaic," feudal, etc.). This is a challenging outline for what could potentially be a great book. But the *Durchführung* is sadly pedestrian; the categories are used very imprecisely; and the remarks are often reiterations of stereotypes or reflections on personal observations of countries near and far.

We learn, for example, that in patriarchal societies traditional beliefs and common sense are more important than technical and scientific knowledge; that people form most of their ideas from experiences in their community of residence; that political knowledge consists of little more than intrigues and maneuvering for succession; and that the opinions of elders are generally respected (pp. 152–55). Or, in "fascist techno-bureaucratic societies," political beliefs dominate technical and scientific thought; knowledge of foreign societies tends to be limited and distorted; the only philosophical thought permitted is that which supports the regime; and official myths abound (pp. 215–20).

The few remarks on each type of "cognitive system" are so brief that the term "system" is seldom justified; most sections consist of a series of disconnected observations. The many chapters are too short to avoid superficiality and caricature: cognitive systems of factories merit three pages; nation states are dismissed in six.

There is virtually no attempt to build on the research of specialists in the areas considered, which, in a volume encompassing as many topics as this one, is little short of disastrous. The extended (forty-two pages) but uneven bibliography seems to have been appended in an attempt to compensate for the lack of contact with relevant materials in the text itself.

Hyperbolic *ad hominem* remarks are not uncommon: "Talcott Parsons—that incarnation of the sclerosis of American sociological theory—merits a special mention as a *frightful example of emptyness*" (p. 48, n. 2). Or, "In *Totemism* by M. Lévi-Strauss, who seeks in this work to avoid difficulties rather than to solve them, [he] does not even seem to realize that he falls into an extreme idealism" (p. 133).

Where empirical materials are introduced, they are often unbalanced and poorly integrated into the text. For example, in the six-page chapter on "States and Their Cognitive Systems," to document the point that in the history of mankind "states can intervene consciously in the development of scientific and philosophical knowledge," ten scholarly institutions created in France between the sixteenth and eighteenth centuries are listed with their dates of foundation (pp. 79–84). But no mention is made of other periods or other societies, nor is any attempt made to specify the conditions under which such developments are likely to take place or the forms which they are likely to acquire.

A twenty-page Appendix completed with three assistants reports on a survey study which examined forms of colleague perception in different social groups. Students, actors, factory workers, white collar workers, and inhabitants of a small town (no *N*'s stated) were compared in their criteria for evaluation of colleagues, reasons for changing these evaluations, and forms of communication among colleagues. Contrary to what seem to have been expected, or at least hoped for, differences between the groups were very slight. No systematic attempt was made to relate relationships (which did appear) to the preceding 238-page text.

Gurvitch's reputation in future years will no doubt have its ups and downs—in France, the United States, and elsewhere—but it is to be hoped that critics who seek to pass a judgment on his total contribution will not linger too long on the present volume. There are better elsewhere.

TERRY N. CLARK
University of Chicago

Organizational Intelligence. By HAROLD L. WILENSKY. New York: Basic Books, 1967. Pp. xiv+226. $5.95.

Writing about a significant topic does not insure a significant document. Happily, the subject of the book under review is of major importance, *and* Harold Wilensky's treatment

is worthy of it. Wilensky has undertaken to survey the determinants of the quality of organizational intelligence. By intelligence, he means "gathering, processing, interpreting, and communicating the technical and political information needed in the decision-making process" (p. 3).

Wilensky begins by sketching the expansion of resources devoted to intelligence and, more significantly, the conditions affecting the relative allocation of organizational resources to intelligence. This specification is important; after all, no leader is against intelligence

One set of determinants affecting intelligence lies within the organization Wilensky analyzes reasons for intelligence failure which are inherent in organizations: hierarchy, specialization, interunit rivalry, and centralization. He also stresses the dilemmas here: "Specialization is essential to the efficient command of knowledge but antithetical to the penetrating interpretation that bears on high policy; specialization and its concomitant, inter-unit rivalry, frequently block the sharing of accurate information, but if problems of upward communication can be solved, rivalry can result in great gains—the clarification of clashing alternatives and the presentation of opposing cases" (pp. 49–50). He also examines various doctrines about intelligence that affect its quality.

A chapter is devoted to the stages of decision-making, leadership succession, stages in the growth of the organization, and the nature of the problem—all relevant to the quality of intelligence. One of the intriguing hypotheses here is that big policy decisions that are also urgent are likely to activate high-quality intelligence; urgency may overcome many information pathologies. He presents a few cases to support the hypothesis, but contrary ones could be cited; furthermore, his evidence refers more to decisions than the quality of the information. Still, his arguments make the relationship between urgency and information quality more problematical than common sense might indicate, and they warrant further investigation.

Another major set of conditions analyzed are the economic, political, and cultural contexts of organizational intelligence. In his analysis, Wilensky avoids the deceptively simple explanations of national character and culture; rather, he examines the concrete variations in economic, political, and social organization. Finally, he devotes special attention to the adverse effects of both secrecy and publicity upon intelligence in democratic societies.

The virtues of the book also underlie its defects. Since it is wide-ranging and recognizes dilemmas, the work is not tightly integrated. Many illustrative cases are presented too briefly to pinpoint where the failure in intelligence occurred. The standards used in evaluating quality are not explicit. A basic issue is that Wilensky sometimes seems to refer to intelligence in the sense of wisdom rather than information. Thus, the use of President Kennedy's Bay of Pigs misadventure and the handling of the Cuban missile crisis as examples of intelligence failure and success confuses the wisdom of policy decisions and the role of information and experts in making the decision. Or take the case of the emphasis upon strategic bombing in World War II and Viet Nam now To what extent are these intelligence failures or cases where leaders choose experts to buttress political decisions? The *utilization* of intelligence needs to be analyzed separately from the quality of intelligence itself. A decision entails more than information.

Wilensky has not provided us with a definitive study; but he has laid the basis for it and provides research suggestions which could keep social scientists busy for a long time. In prompting research about organizational intelligence, he would be promoting significant and useful efforts for public policy and for several sociological topics; for example, in the study of formal organizations, he has provided a whole set of possible interacting linkages between an organization and its environment In short, having gone as far as he has, Wilensky makes it easier for others to go further, and that is a proud achievement for a scientific work.

LOUIS KRIESBERG

Syracuse University

College Women and Fertility Values. By CHARLES F. WESTOFF and RAYMOND H. POTVIN. Princeton, N.J. Princeton University Press, 1967. Pp. xx+237. $7 50

This is a good book. It attacks a real live sociological problem with a happy combination of imagination and rigor. From past surveys of

fertility of American couples, the observation emerged that, while fertility is somewhat inversely related to education for most women, among Catholics, college education in a Catholic institution is associated with fertility higher than that of high school graduates.

There are two obvious—yet competitive—explanations for this finding. Either there is something about the *experience* of a Catholic college which instils or reinforces high fertility values in women, or Catholic colleges are selective of women who already had high fertility values when they entered. Westoff and Potvin have attempted to distinguish the effects of the selectivity of the student population—as reflected in the values and desires of entering freshmen—from the effects of prolonged exposure to the college environment—reflected in the change of these desires by the senior year.

The design is one of a synthetic cohort comparing fifteen thousand freshmen and seniors in the same forty-five institutions at the same time rather than an admittedly more desirable longitudinal one looking at freshmen entrants four years later as seniors. While the limitations of this design may bias findings on the environmental hypothesis, they have no bearing on those regarding selectivity.

The authors' central conclusion is that selectivity is the more important mechanism: Catholic women (even Protestant women) who select Catholic colleges come to them both wanting more children and being less inclined to "plan" their families than women of similar backgrounds who choose non-sectarian institutions. The four-year college experience, on the other hand, has negligible influence on these values, serving primarily to bring deviants to heel, reducing the variance of desired children within the senior class. The one exception to this minimal responsiveness to four years of environment is Catholic women from Catholic high schools who choose non-sectarian colleges. While they already differ from their high school peers who choose Catholic colleges, by their senior year, they experience a further, and substantial, decline in their fertility desires and an increase in their intent to plan their families.

The second half of the volume (chaps. viii–xii) stands quite apart from the interests of the first by examining the correlates in values, beliefs, and religious behavior of the number of children desired for the several religious groups. These one hundred pages constitute the most satisfactory analysis of this type presently in the literature.

Unfortunately, this is a sloppy book. On page 29 the authors predict that the family desires of women with no religious preference in non-sectarian institutions will "experience no change after four years of college" Five pages later they "find a slight drop in the expected direction" for this group. On page 37 the downward "change" of Protestant women in non-sectarian institutions is cited as between "3 2 for freshmen and 3.1 for seniors," while the table on the facing page reads 3 5 and 3.4, respectively. The *n* for senior women with no religious preference in non-sectarian institutions is printed as 158 in Table 12 on page 53 Barring a 20 per cent item non-response (which is denied elsewhere), it should read more like 185. The second panel of Table 45 on page 136 is incorrectly labeled "Perception of Large Family" when it evidently should read "Perception of Small Family."

It is not that any of these errors are devastating to any of the authors' arguments. Individually, pointing them out is only nit-picking, together, they lend an aura of carelessness to the entire book.

The criticism which will doubtless be leveled at this volume by students of fertility is that, in dealing with fertility desires rather than either expectations or actual performance, the study is limited in its ability to answer the question which prompted it: Why is there a distinctive relationship of education to *actual* fertility among certain Catholics? Even if further research makes this criticism stick, the book still deals impressively with the multiple relationship of religion, type of education, and values. With the one recent volume covering essentially the same issue—Greeley and Rossi's *The Education of Catholic Americans*—it compares—how should a loyal Chicago product say it?—favorably.

ANDREA TYREE

University of California, Los Angeles

The Apathetic Majority: A Study Based on Public Responses to the Eichmann Trial. By CHARLES Y. GLOCK, GERTRUDE J. SELZNICK, and JOE L. SPAETH. New York: Harper & Row, 1966. Pp. 222. $6.95.

This second volume of a series that reports the results of a five-year study of anti-Semitism in the United States is representative of the best that has been done in the area of public opinion. The major goal the study set for itself was to discover the impact of the Eichmann trial on public opinion in the United States. A complementary objective was to "contribute to general knowledge" about the formation and change of public opinion during the reporting of a major political event. The authors accomplish both tasks with more thoroughness and more imagination than do most reporters of public opinion surveys. For those readers who have, until now, cited Samuel Stouffer's survey *Communism, Conformity and Civil Liberties* as a landmark for the quality of analysis that can and should be done in the area of public opinion, they can now substitute or add to that model *The Apathetic Majority*.

The weaknesses of the survey (and even first-rate pieces of work have flaws) are its sample and the timing of the study. The sample is based on 463 hour-long interviews with a representative sample of the population of Oakland, California The authors defend their one-city sample on grounds of practicality (convenience and budget) and on grounds that, by limiting the geographical area, they have the advantage of being familiar with the city's characteristics and with the mass media serving it. It is this last point that the authors feel should be most persuasive because, in being able to have complete access to mass media output, they were in a better position to interpret the results of the survey, since the respondents' information about the trial was completely dependent upon the mass media. But, as it turns out, the authors do relatively lit le by way of mass media analysis, and it seems to me that they gained less by limiting their study to one city than they would have lost in an analysis of mass media coverage in other urban centers in different regions of the country. It would have been easy enough to look at the lead stories in the major newspapers in the target locations for a comparative analysis of the awareness that respondents had of the Eichmann trial compared with other news events. And that is about as much as they do with the mass media anyway.

The second weakness is the timing of the study. The fieldwork began when the trial proceedings were nearly completed. The closing statements of the prosecuting and defense attorneys remained to be heard before the court adjourned to consider its verdict. As the authors aptly analogize, the respondents may be viewed as jurors and the interview is the vehicle through which their verdicts are announced. But the study would have been strengthened had the fieldwork begun when the trial did and levels of awareness and reactions to the trial recorded in waves, culminating in the respondents' announcing their verdicts after all the evidence had been presented.

So much for the weaknesses of the study. Now for a brief description of the results. The questionnaire was designed to discover the amount and kind of attention that the Eichmann trial received, reactions to specific events of the trial such as details of Nazi atrocities against the Jews and conditions in the concentration camps, and the relationship between these facts and any prejudice the respondents may have felt toward Jews. A subtheme that runs throughout the study is a comparative analysis of the reactions of whites and Negroes, which was not, and could not, be fully developed because the number of Negro respondents was only 141 and, of those, 107 had any awareness of the trial

Eighty-four per cent of the respondents indicated that they had "heard" of the trial, but of those, 24 per cent could not give a correct answer to any of four basic facts about the trial or the events leading up to the trial, indicating that perhaps 63 per cent was a more descriptive figure of even the most superficial awareness of the trial. While anti-Semitism scores turned out to be a poor predictor for most problems, the authors did find that the more anti-Semitic the respondent the less knowledgeable he was. But even on this question, socioeconomic status correlated better with the more knowledgeable respondents located in the more privileged groups.

Seventy-seven per cent indicated that, in general, they though it was a good thing that Eichmann was brought to trial, but the more knowledgeable respondents (who were also the more privileged) were more skeptical about the legality of the trial. They were also more likely to perceive Eichmann as a bureaucrat rather than a monster or a zealot, and those who saw him as a bureaucrat were less likely to advocate a verdict of guilty.

The authors should be commended for the thoroughness with which they analyzed the data, for the depth with which they probed the problem, and for the provocative insights they offer about the implications of apathetic majorities for different kinds of issues in a democratic society.

RITA JAMES SIMON

University of Illinois

Slavery in the Americas: A Comparative Study of Virginia and Cuba. By HERBERT S. KLEIN. Chicago: University of Chicago Press, 1967. Pp. xi+270. $6.95.

Herbert Klein's study is a valuable addition to the growing literature on slavery in the western hemisphere. It will add fuel to the scholarly debate touched off by Frank Tannenbaum and Stanley Elkins: Was North American slavery (that is, slavery in the South) of a qualitatively different character than the parallel institution in Latin America and the West Indies? By means of a detailed historical comparison of Cuba and Virginia, the author, informed by considerable sociological sophistication, makes an impressive case for the uniqueness thesis.

Klein first compares "the establishment of imperial control" in the two colonies. The Spanish crown set up its colony in such a way that it maintained considerable control over all major aspects of social and political life in Cuba. England, on the other hand, did not have the bureaucratic structures or the economic motivation to interfere in Virginia, and the colonists there developed administrative autonomy early. For Klein, this goes far to explain the fact that traditional legal codes and the Catholic church could provide a system of rights and privileges for the Cuban slaves, while in Virginia slave codes emerge from the narrow economic interests of the planters and the church never seriously concerned itself with the spiritual or social condition of the bondsmen.

Thus far we have primarily an elaboration of the Tannenbaum and Elkins thesis. In his last two sections, "Slavery and the Economy" and "The Freedman as an Indicator of Assimilation," the author goes far beyond previous scholars in presenting first-hand data and an exciting comparative analysis. He shows how Cuba developed a diversified economy in which free coloreds and slaves alike participated in a wide spectrum of occupations. Though sugar plantations may have been the harshest work environment for any slave on the entire continent, only a minority of Cuban blacks worked sugar. There was a much higher proportion of slaves in urban industrial occupations than in Virginia, and the strict castelike association between specific occupations and "race" did not develop in the Spanish colony. The author presents statistics on the color composition of thirty-one major occupations for six districts of Havana in 1861: for only four of these could one "race" claim 90 per cent or more of the workers (chaise drivers, 99 per cent free colored; landlords, 94 per cent white; house servants [female], 90 per cent colored; dressmakers, 92 per cent white). The free coloreds were well represented in such skilled trades as masons, carpenters, tailors, harness-makers, and many others.

Even during the period of slavery, Cuba was developing an open-class society in which occupation was more crucial than color. The obsession with race, the anxiety and fear of contamination through white-black contact that characterized North American slavery had little counterpart in Cuba The freed blacks had the rights of citizenship, including the bearing of arms in colored militias which for two and a half centuries defended the island from outside attack. Like Stanley Elkins, Herbert Klein sees the patterns that developed within slavery as critical in determining the character of race relations that have emerged in the century since abolition.

A sociologist without historical depth in the two areas will find it difficult to fault the author's persuasive analysis. Yet I sensed a tendency to overplay the contrast between Cuba and Virginia. This suggests a general problem in scholarship—the way in which the author's purpose affects the selectivity of the data he analyzes and communicates to his readers. How would Klein's monograph read if the author had worked as diligently to convince his audience of the essential similarities between the slavery systems in the two societies? I think the differences would still have been apparent, but there would have probably been a greater

sensitivity to the diversity within the institution of each colony, the kind of perspective that informs Kenneth Stampp's *The Peculiar Institution* (New York: Vintage Books, 1956).

ROBERT BLAUNER

University of California, Berkeley

Hustlers, Beats, and Others. By NED POLSKY. Chicago: Aldine Publishing Co, 1967. Pp. 218. $5.95.

This book has a curious anachronistic quality, reflected in its main subject matter, the author's perspectives, and his petulant style, which here and there vaguely recalls the acerbities of H. L. Mencken Polsky's career as sociologist-publisher-sociologist may in part account for the discontinuity in his viewpoint, which hearkens back to the reportorial ideal of early University of Chicago urban ethnography Later, he admits a kind of tortured indebtedness to Everett Hughes for the occupational model with which he organizes his observations and historical materials on poolroom hustling.

It is clear that Polsky's treatise on poolroom culture and the lore and organization of hustling is a labor of longtime love, born of early first-hand experience as an aficionado and furthered by subsequent research interest His materials are not as rich and exhaustive as Maurer's on con men and pickpockets, but this may be due to the low ("short con") level of specialization represented by pool hustling That the treatise is a solid contribution to the ethnography of deviance no one will doubt, but it leaves a nagging query as to how far it rises above mere description.

Polsky's historical or "structural" interpretation of the decline of poolrooms and associated hustling is inventive enough and convincing, but theoretical propositions and analytic insights drawn from the Hughesian triad of work situation, career, and external world tend to be few and narrowly *ad hoc*. The most intriguing question raised—why persons enter or "hang on" to a declining illegal occupation—he answers by saying that once persons enter the hustling world they are caught by psychic stimuli peculiarly seductive to lower-class youth—excitement, fate, heroism, toughness, and autonomy. Allowing the possible relevance of such subcultural inducements, one still wonders whether failure to mention Becker's concept of commitment was due to ignorance or deliberate oversight. In either case, doubt remains whether Polsky has fully or systematically exploited the ideas and work of those whose views he purports to share.

The author sees only limited value in the conception of deviance as a consequence of societal definitions and social control, or "labeling" as it unfortunately has come to be called. But this may well follow from the marginal nature of the deviance commanding his attention, which, in addition to hustling, includes pornography. Pornography, even "hard-core," at best is poorly chosen and is shifting ground on which to contest theories of deviance Furthermore, the author's own indications are that that stigma has always been a remote and formal aspect of the hustler's world.

The choice of discourse in the hustler's own terms and "taking a view from the inside," whatever their enlightening virtues, give little appreciation of the other side of the deviance equation in this instance. The "problems created by others" for the hustler is proposed as part of analysis, but not much materializes on the subject in subsequent discussion, except the note—almost an afterthought—that over half of all hustlers have "moonlighted" by the commission of serious crimes. Unhappily, this potential line of inquiry is never pursued, so that relations with police, consequences of rousting, possible refuge qualities of poolrooms, the effects of imprisonment on hustlers, and generic similarities between poolroom hustling and hustling by prostitutes and drug addicts must be left to the imagination.

Comments in a chapter on method in criminology are largely a diatribe against textbook criminology, which is deprecated as non-scientific, anticriminal, and social-work oriented. Sutherland, Cressey, Korn, and McCorkle are all castigated as devils of the peace for their failure to study or encourage study of "criminals in the open." In so doing, Polsky retreads the old controversial ground of "who is a criminal" without adding much, save his strong feelings

Whether significant numbers of criminals in the open still lead lives uncomplicated by contacts with law enforcement agencies and large-

scale correctional institutions is highly dubious. Indeed, the whole idea suffers from romantic overtones reminiscent of the eighteenth-century preoccupation of French and other scholars with the unspoiled savage in pristine settings.

Substantial though it is, Polsky's contribution appears to be to a back eddy of criminal history.

EDWIN M. LEMERT

University of California, Davis

Role Theory and Illness. By GERALD GORDON. New Haven, Conn.: College University Press, 1966. Pp. 158. $4.50.

This small monograph reports the results of a survey which had as its ambitious aim putting Parsons' formulation of the "sick role" to an empirical test. The design of the questionnaire was informed by theoretical considerations, and a series of eight hypotheses derived from Parsons were the focus of the analysis. An area probability sample in New York City yielded 808 cases for analysis.

This study appears to be a model of design and execution of survey research. A tremendous amount of data was generated and reduced to some order. The results are clean in that hypotheses are accepted and rejected according to acceptable criteria. Yet, its yield in terms of increasing our empirical knowledge and theoretical understanding of illness behavior is amazingly small, in my judgment.

Essentially, the author abdicates any discussion of the meaning of his data. This is reflected in the remarkable disjunctiveness between his early theoretical chapters on role theory and the concept of the sick role, and his concluding chapter, in which he simply summarizes his results. No attempt is made to relate the data back to theoretical considerations. Parsons is forgotton, and the reader is left to figure out as best he can what the list of accepted and rejected hypotheses means in terms of a coherent picture of illness behavior or, rather, people's expectations surrounding illness.

There is the question of whether the author could have made more of his data. There are some findings which cannot be pursued due to limitations of the research design. For example, upper-class persons were less likely to designate persons who were under a physician's care as "sick" than were lower-class respondents. It would be highly misleading to interpret these results as indicating that validation of illness by a physician is less important at the upper socioeconomic levels, but the design and results give us no clues to follow. The author finds that poor or uncertain prognosis is associated with ascription of the sick role at all socioeconomic levels but that lower-class persons are more prone to designate cases with functional incapacity as sick. Similarly, he finds that expectations surrounding illness are generally alike between class levels, except for a greater tendency among the lower levels to consider cases of non-serious prognosis as dependent. Here the temptation would be strong to relate these findings to the quality of medical care which the upper socioeconomic levels enjoy. The relatively affluent may be more attuned to having chronic illnesses and incapacities under good medical control and therefore do not regard such conditions as "sickness." But Gordon would have to go beyond not only his data but also his design to pursue such a lead.

On the other hand, I suspect that Gordon has some good data which he did not present In his analysis of behavioral expectations surrounding illness, he finds that his respondents appear to make a distinction between "sick" and "impaired." He does not develop this finding to any significant extent. We can make a safe bet that people use a whole series of gradations in judgment concerning illness and impairment. The questionnaire used in the study gave respondents an opportunity to designate conditions as handicapped, crippled, sick, sickly, etc , but Gordon apparently did not use this data. It may be that Gordon asked his respondents the right questions but did not ask the right questions of the data. In any case, neither he nor Parsons did each other any great service

No doubt medical sociologists will continue to use the notion of a "sick role" as a general sensitizing concept, which may take them further than attempting to "test" its assumed parameters.

RUE BUCHER

University of Illinois, Chicago Circle

The Dissemination of Health Information. By JACOB J. FELDMAN. Chicago: Aldine Publishing Co., 1966. Pp. 274. $6.95.

Some years before the current explosion of interest in medical sociology, the National Opinion Research Center conducted one of the most comprehensive national surveys of information, attitudes, and behavior in regard to health. In 1955, NORC personnel interviewed 2,379 individuals from a representative general-public sample, 471 personal physicians of these respondents, and 448 of the pharmacists they went to for drugs and medicines. The interviews were detailed, averaging close to two hours, carefully constructed and pretested, and touched on many facets of health and medical care heretofore unexplored. They held forth the promise of a major contribution to medical sociology.

Unfortunately, this promise has not been realized. Ten years after the study was completed, we are now offered only a tantalizing glimpse into one aspect of the survey, the dissemination of health information, with a frank, if disheartening, apologia for "but a fragment of the monumental treatise we originally envisioned" (p. 3). Fortunately, this fragment is excellent, but it makes the disappointment even more poignant. And, with all due respect for the author's competent, and at times brilliant, analysis of the aborted materials, the "salvage" (p. 4) is too narrow and limited to constitute more than an interesting but superficial analysis of the interrelationship of health knowledge, attitudes, and behavior.

Focusing on the acquisition of health information as an aspect of the general phenomena of adult learning, the author analyzes public knowledge and attitudes concerning health and medical care (chap. iv) and the sources and correlates of health information (chap. v). In general, he finds that "most Americans are interested in health information, expose themselves to it readily, and prove to be quite knowledgeable about the facts of illness and the importance of medical care" (p. 155). Health information is spread primarily through the mass media. Both exposure and knowledge, however, are highly self-selective, with the better educated seeing more and knowing more. In an extremely thorough analysis of educational level as a demographic variable, the author examines the validity and implications of this major finding and concludes that knowledge is highly generalized and largely limited to the more-educated segments of the population. He postulates an underlying general factor composed of "free-floating intellectual curiosity," "the amount of reading matter consumed," and "the capacity to understand and retain what is read" (p. 167).

This analysis of education represents survey analysis at its best. It is theoretically sound and methodologically sophisticated. The author's ability to introduce a wide variety of findings from other surveys offers a model of continuity that other survey researchers might well emulate. His copious footnotes provide methodological asides which are both instructive and delightful.

One only wishes that the author's obvious competence had been brought to bear upon the full range of available data. As one leafs through the questionnaires in the Appendix, one sees question after question which would have added immeasurably to the present analysis. The lack of any interactional analyses, the seeming absence of hypotheses, and the failure to relate the respondent's replies to those of his physician are faults which become even more obvious as one notes the availability of the data. Perhaps we are fortunate to get what is offered, but one cannot help feeling a sense of loss—and waste.

EDWARD A. SUCHMAN

University of Pittsburgh

Formal Organization: A Systems Approach. By ROCCO CARZO, JR., and JOHN W. YANOUZAS. Homewood, Ill.: Richard D. Irwin Inc., and Dorsey Press, Inc., 1967. Pp. xii+591. $8.50.

This is basically a textbook for introductory formal-organization classes that are aimed at students with a strong interest in administration. And it looks like it may be a good choice where this interest includes an additional interest in the application of mathematical models to problems of organizational design. For more sociologically oriented classes, the book might be useful as a supplementary text to introduce students to traditional administrative theory, a systems theory view of organizations, or mathematical models

It begins with four chapters describing and criticizing traditional administrative theory, by which the authors mean the works of Frederick W. Taylor, Henri Fayol, Luther Gulick, J. D. Moony and A. C. Reiley, and Max Weber. The discussions of the major problems treated by administrative theory (departmentation, unity of command, span of control, formal delegation of authority, specialization, and so forth) and the criticism (centering around the failure to study informal behavior) are all fairly standard and are for the most part clear and interesting. The next three chapters develop the argument, which runs throughout the book, that formal organizations can be viewed in terms of general systems theory and as being composed of technical, social, and power subsystems which interact to form an emergent system. There are good chapters on the sociometric analysis of organization structure and on power-dependency relations. The next six chapters deal with the use of mathematical models in evaluating alternative organizational designs, for example, the use of Markov chain analysis to evaluate three structural designs for channeling information and making decisions about scheduling and budgets. The last two chapters deal with organizational change. One chapter looks at different theoretical and analytical models of motivation, and the other presents a systems theory view of change.

The most distinctive aspect of the book is clearly its emphasis on mathematical analysis. The authors suggest that it is possible to follow the mathematics with no preparation beyond algebra and elementary statistics. They further advise that the book is so arranged that the mathematical sections can be omitted "without loss of continuity." It does seem possible for one so prepared (e.g., the reviewer) to follow the arguments with varying degrees of success and ease or, failing that, to do as the authors advise. However, without a substantial amount of the mathematics left in, the book has little to recommend it over other introductory books.

A major thrust of the book is to show that a theory of organization based on the principles of general systems theory is superior to traditional administrative theory. The authors argue that traditional theories do not recognize the importance of the interdependence of organizational parts, of environmental influences, or of informal behavior. Considering the insistent emphasis on co-ordination in most traditional theories, the first criticism seems overdrawn, the second criticism may be valid for certain of the traditional theorists but pretty clearly is not for Weber, and the final criticism one can accept without necessarily being led to systems theory. There are more parsimonious ways of taking into account informal organization, organizational interdependence, and environmental influences. It is not necessary to take on all of the assumptions of general systems theory to do so, particularly in an introductory text. Moreover, the systems approach sometimes seems here to replace, instead of facilitate a real revision of traditional theory. This is not true of the early theoretical chapters, but when the models for evaluating organizational designs, which are presumably the fruit of the systems approach, are examined it is apparent that the variables considered are in fact not very different from those that traditional administrative theory would suggest. The new elements are largely the mathematical methods and the abstract principles and concepts of systems theory itself.

JOHN D. BREWER

University of California, Los Angeles

The Admirals' Lobby. By VINCENT DAVIS. Chapel Hill: University of North Carolina Press, 1967. Pp. xviii+329. $7.50.

In its efforts to gain favorable decisions by Congress or from civilian officials, the uniformed leadership of the U.S. Navy has clearly preferred the direct approach, relying heavily on contacts of an informal, personal, and institutional sort. Since the navy has sponsored no sustained activity to promote its favored programs and policies, efforts to cope with any situation where its interests seem threatened have usually been improvised and, partly for that reason, have often turned out to be inept. One of Vincent Davis' main generalizations, drawn from his study of the navy as a twentieth-century pressure group, is that naval officers exhibit even less taste and talent for politics than officers in the other services.

The disinclination to engage in overtly political activities, except when pressured by events, certainly reflects a long-standing attitude deeply rooted in the American public's mind. But this attitude also articulates elements in the specific subculture of naval officers, such as the belief traditional among military men that they should not, as officers, involve themselves in organized politics. In their capacity as experts, naval officers have routinely provided information to members of Congress, but they have not defined this activity as political. Rather, they have seen themselves as performing, in this way, a patriotic service *above* partisanship. This sense of aloofness is abetted by the central place that duty on board ship has traditionally occupied in a naval career. Indeed, to some extent, naval officers are not only isolated, but are actually alienated, from civil society.

Beyond reiterating these main elements in the naval officer subculture, Davis does not describe or analyze the process by which an officer assimilates this point of view. Nor does he indicate to what extent this outlook is unquestioningly accepted or what modifications may be expected. Rather, he starts with the subculture as more or less a given entity, then proceeds to identify the various pressures that have moved naval officers, on occasion, to abandon their essentially passive political role. Some pressures stem from broad technological and strategic developments that make likely the early obsolescence of weapons, thus forcing all the services, including the navy, to engage in long-range planning and to compete for the federal tax dollar. Others grow out of more special circumstances that affect the navy especially and mobilize it into action.

Any effort to pare down the power of semiautonomous bureaus in the military runs counter to the navy's traditional commitment to decentralization and is bound to be resisted. Even more basic is the navy's opposition to unification efforts, as shown when it was threatened with having to give up its planes to a newly formed air force. It obviously could not countenance the gradual replacement of its surface fleet by air power and ultimately by missiles as the major means of deterring an overseas invader, unless it were guaranteed a chance to develop the new technology for its own strategic mission. The navy did succeed in retaining its carrier-based air power and augmenting the air force missile system through its own submarine-based Polaris missiles.

All this suggests that naval intervention in the policy process has been largely of a "reactive" character. Naval officers, when aroused, will rally to defend what they perceive to be the vital interests of their service. Still, Davis finds no evidence that the navy has any broader policy design, either of its own or in conjunction with other services. Certainly, the navy has often received less than that which it considered its fair share of resources, but, in seeking support, it has depended heavily on the leadership, or at least the tactical support, of ranking civilian officials in the Cabinet.

I do not mean to convey the impression that this carefully researched study is simply a historical account of navy politics. The book concludes, in fact, with a set of descriptive generalizations that will, no doubt, serve as an important guide for further research into other facets of the ideology and politics of the naval officer corps

Kurt Lang

State University of New York at Stony Brook

Studien zur politischen und gesellschaftlichen Situation der Bundeswehr, Vol. II. Edited by Georg Picht. Contributions by Ludwig v. Friedeburg, Johannes v. Heiseler, and Franz Albrecht Klausenitzer. Berlin: Eckart-Verlag, 1966. Pp. 246. DM. 22 00.

The *Bundeswehr* is the creation of the German Federal Republic in a way that the armed forces of the Weimar Republic never were. It came into being by an act of parliament. Military necessity was the guiding consideration, and the planners deliberately searched for a model that would preclude the re-emergence within the reconstituted German army of a spirit hostile to democratic forms.

The three studies in this volume deal with different aspects of the patterns of civil-military relations that are beginning to emerge. But unlike the majority of studies on this subject, the authors go beyond a description of the political forces or a probing of the legal-

constitutional framework. Each focuses on the internal structure of the German "New Military," seeking to identify developments and practices that are bringing the armed forces and society into closer accord with one another as well as those that are the continuing cause of strain. In short, the perspective is distinctly, sometimes self-consciously, sociological.

The lead article, by von Friedeburg ("On the Relation of Military and Society in the Federal Republic"), presents an overview of the civil-military relations in postwar Germany. It does so on the basis of current controversies within Germany over the place and function of the *Bundeswehr*, which are interpreted in the context of the relevant sociological literature. Von Friedeburg shows that acceptance by the German public of the necessity of rearmament is not enough to eliminate all contradictions. A military career seems, on the basis of evidence available, to enjoy extremely low prestige among the professions. Germans who are willing to acknowledge the pedagogical value of military training, and demand more rigorous training standards, often couple this with an insistance that the treatment of soldiers conform in every respect to the spirit of civilian institutions.

As regards the professional self-images of military men, recognition of the principle of civil supremacy is not enough. Political cross-currents and changes in the military function give rise to dilemmas of which organizational arrangements must take account. How is the dedication of soldiers to the cultivation of the martial arts affected by their government's official dedication to peace and the absurdity of the concept of victory in a general atomic war? How can the need to shape the *Bundeswehr* into a unified instrument be reconciled with the political pluralism of the society? What impact will a return to professionalization have on the military's political stance?

If von Friedeburg's article sets the tone, each of the two succeeding studies probes into some specific aspects of these problems in greater depth. Von Heiseler ("The Military and Technology") uses material on organizational forms, leadership practices, training methods, and unit morale in the *Bundeswehr* to make some rather acute observations of the dilemmas created by technology. In the final study ("The Discussion on 'Innere Führung'"), Klausenitzer takes a critical look at the orientation program through which the caste spirit, blind discipline, and antidemocratic tendencies were to have been eradicated from the German army. On paper the program was quite revolutionary, but many of the original meanings were subverted by the way it came to be implemented.

The volume in its entirety serves as a useful corrective against the rather laudatory conclusions by Waldman (see *The Goose Step Is Verboten*), the only major empirical study of the postwar *Bundeswehr* so far available in English. The analysis here is deeper and far more sophisticated. At the same time, it points to the apparent paucity of solid empirical data to match the sophisticated level of conceptualization. The degree to which each of the authors relied on public pronouncements, orientation pamphlets, and other published comments points to the need for additional studies into the internal practices of the fledgling *Bundeswehr*. Such a study could prove to be a critical landmark in the area of deliberately planned institutional change.

KURT LANG

State University of New York at Stony Brook

The Foreign-Language Press in Australia, 1848–1964. By MIRIAM GILSON and JERZY ZUBRZUCKI. Canberra: Australian National University Press, 1967. Pp. 233. $6.90.

This book contains some historical notes, but in all but the first chapter the book deals with the foreign-language press which emerged in response to immigration to Australia following World War II. The central theme of the study is a familiar one: how an ethnic press plays the dual role of providing settlers continuity with their cultural traditions while at the same time helping them adapt to the new society.

These functions are assessed in a content analysis of nine newspapers published in five languages during a sample period between 1956 and 1959. On the bases of editorial positions, attention devoted to homeland news versus Australian national affairs, and the

coverage given to migrant-group activities in the host society, the authors conclude that most of the newspapers maintained a "healthy and responsible balance" between the two not altogether compatible themes.

Data on the number of foreign-language newspapers in circulation are interpreted against a "demographic hypothesis," which relates the number of newspapers to trends in the influx of settlers, and a "cultural distance hypothesis," which argues that support for ethnic newspapers should be stronger among groups whose traditions are more distant from the British-Australian. The authors believe their results support both propositions, though with respect to the latter they are hard pressed to reconcile the long and continuous presence of a German-language press. Nonetheless, they do find cultural preservationist themes more prominent in the postwar Polish and Greek press than in the Italian, German, and Dutch.

One very evident weakness of the book lies in the paucity of information it presents on the social history and adjustment of the various ethnic groups in Australian society. This, coupled with the natural limitations of content analysis in sociological inquiry, seriously limits any direct assessment of the functions of foreign-language newspapers. Even without audience studies, more detailed information on the demographic, ecological, and social status of the various groups would have provided a much stronger base for interpreting their needs for, uses of, and reactions to native-language newspapers during the late fifties.

A few minor flaws are to be noted in the treatment if the quantitative data. At one point a slight shift in content emphasis between 1956 and 1959 is overinterpreted on the basis of not at all self-evident statistical significance (p. 62); at another, a numerical indicator is named inappropriately (p. 136); and though suggested by the text, migration figures are never directly related to circulation data. The cultural distance argument is also confused at one point when the authors suggest it is supported by an inverse relationship between press support and a group's *remoteness* from the dominant culture (p. 140). These are minor faults, though, and they do not detract from an otherwise careful and well-documented presentation of evidence.

John W. C. Johnstone

National Opinion Research Center

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Some Problems in Defining Social Power[1]

Dennis H. Wrong

ABSTRACT

To define power relations as completely asymmetrical is to overlook intercursive power relations in which actors control others in some scopes and are controlled by them in other scopes. In integral power relations, the power holder retains an irreducible autonomy, but his power can be negatively limited in various ways. Power is a narrower concept than social control. It should be limited to *intended* and successful control of others, although such intentional control clearly permits greater unintended control as well. When power is defined as a "capacity," it may be either actual or potential. Potential power, however, is not the same thing as merely possible power, which in the case of groups requires social mobilization to become both actual and potential.

ASYMMETRY AND BALANCE IN POWER RELATIONS

The initial problem of defining social power is to recognize its special features as a particular kind of social relation without minimizing what it continues to share with all social relations. People exercise mutual influence and control over one another's behavior in all social interaction—in fact, that is what we *mean* by social interaction. Power relations are asymmetrical in that the power holder exercises greater control over the behavior of the power subject than the reverse, but reciprocity of influence—the defining criterion of the social relation itself—is never entirely destroyed except in those forms of physical violence which, although directed against a human being, treat him as no more than a physical object.[2]

The asymmetry of power relations is often stressed to a degree that would make it logically contradictory to speak of "bilateral" power relations or of "equality of power" in bargaining or conflict. Thus Gerth and Mills write: "When everyone is equal there is no politics, for politics involves subordinates and superiors."[3] And Peter Blau maintains that "interdependence and mutual influence of equal strength indicate lack of power."[4] Such assertions risk going too far in severing power relations from their roots in social interaction in its generic form. The asymmetry of power relations is at least immanent in the "give-and-take" of dyadic interaction between equals, in which the control of one actor over the other's behavior is reciprocated by a responsive act of control on the part of the other. Asymmetry exists in each individual act-response sequence, but the actors continually alternate the roles of power holder and power subject in the total course of their interaction. In a stable social relation (where there is recurrent interaction between the parties rather than interaction confined to a single occasion) a pattern may emerge in which one actor controls the other with respect to particular situations and spheres of conduct—or *scopes*, as they have often been called—while the other ac-

[1] This is a revised version of a paper read at the 1965 annual meeting of the American Sociological Association.

[2] See Georg Simmel, *The Sociology of Georg Simmel*, trans. and ed. Kurt H. Wolff (Glencoe, Ill.: Free Press, 1950), pp. 181–82.

[3] Hans Gerth and C. Wright Mills, *Character and Social Structure* (New York: Harcourt, Brace, 1953), p. 193.

[4] Peter Blau, *Exchange and Power in Social Life* (New York: John Wiley & Sons, 1964), p. 118.

tor is regularly dominant in other areas of situated activity. Thus a wife may rule in the kitchen, while her husband controls the disposition of the family income. Or a labor union, as in the unions of seamen and longshoremen, controls hiring, while the employer dictates the time and place of work.

Thus if we treat power relations as exclusively hierarchical and unilateral, we overlook an entire class of relations between persons or groups in which the control of one person or group over the other with reference to a particular scope is balanced by the control of the other in a different scope. The division of scopes between the parties is often the result of a bargaining process which may or may not have followed an open struggle for power—a separation in a marriage, a strike against an employer, a lawsuit in commercial rivalry, a war between nations.

The term *intercursive power* has been suggested for relations characterized by a balance of power and a division of scopes between the parties.[5] It is contrasted with *integral power* in which decision making and initiatives to action are centralized and monopolized by one party alone. Intercursive power exists where the power of each party in a relationship is countervailed by that of the other, with procedures for bargaining or joint decision making governing their relations when matters affecting the goals and interests of both are involved. Riesman's notion of a balance of veto groups, each able to prevent the others from acts threatening its interests, constitutes a negative system of intercursive power relations.[6] The various conceptions of "pluralism" in contemporary sociology and political science are models of systems of intercursive power relations.

Integral power always raises the question *quis custodiet ipsos custodies?*—or who rules the rulers, guards the guardians, oversees the overseers? The assumption behind the query is that the rulers' power to decide at their own discretion cannot be entirely eliminated in human societies. "Power cannot be dissolved into law," as Franz Neumann observed,[7] and the liberal slogan, "a government of laws, not of men," is, if taken literally, mere ideology expressing a mistrust of political power. Thus where integral power is established and recognized as unavoidable in at least some situations (or scopes), as in the case of the power of the state in modern times, attempts to limit it take a form other than that of transforming integral power into an intercursive power system. Integral power may be restricted without either reducing the decision-making autonomy of the power holder or countervailing it by giving others power over him with reference to particular scopes. Measures designed to limit integral power include periodic reviews of the acts of the power holder (legislative and judicial review), periodic reaffirmations of his power-holding status or his removal and replacement (rules of tenure and succession), the setting of limits to the scopes he can control or to the range of options available to him within each scope ("civil liberties"), and rights of appeal and petition concerning grievances.

If such measures are to be truly effective and not just window dressing, like the impressive constitutions created by so many absolute dictatorships in recent history, there must be sources of power independent of the integral power holder that can be mobilized to enforce them. The law must be a web that catches the lawmaker as well as his subjects. Conditions making this a reality may include the separation of executive, legislative, and judicial powers within the government itself, the creation of dif-

[5] This distinction was formulated by Theodor Geiger. See the discussion, to which I am much indebted, by J. A. A. Van Doorn, "Sociology and the Problem of Power," *Sociologia Neerlandica*, I (Winter, 1962–63), 16–18.

[6] David Riesman and others, *The Lonely Crowd* (New Haven: Yale University Press, 1950), pp. 244–55.

[7] Franz Neumann, *The Democratic and Authoritarian State* (Glencoe, Ill.: Free Press, 1957), p. 7.

ferent and independent levels of government as in federative states, divided rather than unified elites within society at large, and, ultimately, strong support for constitutional guarantees or traditional "unwritten" rights and liberties on the part of the power subjects. In other words, there must be real countervailing power centers able to enforce limits on the power of the integral power holder, and, insofar as this is required, the distinction between intercursive and integral power is not an absolute one. The checks on integral power, however, are largely negative. To quote Neuman again: "All traditional legal conceptions are negative ones. They limit activities but do not shape them. It is this very character of law which grants to the citizen a minimum of protection."[8]

There are four broad ways in which power subjects may attempt to combat or resist the power of an integral power holder: (1) they may strive to exercise countervailing power over him in order to transform his integral power into a system of intercursive power; (2) they may set limits to the *extensiveness* (the number of power subjects), *comprehensiveness* (the number of scopes), and *intensity* (the range of options within particular scopes) of his power; (3) they may destroy his integral power altogether, leaving the acts he formerly controlled open to free and self-determined choice; (4) they may seek to supplant him by acquiring and exercising his integral power themselves.

With reference to the integral power of modern states within their territorial jurisdictions, the first three alternatives correspond roughly to, respectively, efforts to establish democratic government, constitutional government, and the elimination of all government, or anarchy. The first two, of course, have frequently been combined as a political objective. The fourth alternative obviously corresponds to the different forms of political succession, such as putsch, revolution, or the legally regulated competition of electoral contests.

Such devices as the initiative, the referendum, and impeachment by ballot, as well as the conception of elections as mandates, are established ways in which subjects exercise countervailing power over their rulers. The transformation of integral power into intercursive power, however, can never be complete in the case of modern states insofar as there is an irreducibly integral element in political power that cannot be eliminated altogether.[9] Bills of rights, constitutional guarantees, jurisdictional restrictions, and statutory limits on the options available to the political decision maker are ways of checking the integral power of the state without eliminating it altogether by depriving the ruler of any scopes in which he can decide and act according to his own discretion. The removal of certain substantive areas of choice by power subjects from any control by the state—such as the "basic" freedoms of speech, religion, assembly, residence, etc.—has the effect of eliminating the integral power of the state in these areas, even though the total elimination of state power—the third alternative above—has never been permanently realized in any civilized society. (It has, of course, been the goal of anarchism as a political movement.)

It is misleading, therefore, to contend that "all politics is a struggle for power." The subjects or victims of power may seek to replace the power holder because they envy him and wish to use his power in the service of their own goals and interests, or because they are vengeful and wish to punish him as he may have punished them. But alternatively they may wish to free themselves merely from his control over them by limiting or abolishing his power and enlarging their own range of free choice. Politics includes both a struggle for power and

[8] *Ibid.*, p. 17.

[9] *Ibid.*, pp. 257–69. Neumann points out that it is in foreign policy that integral power ("the political element") "prevails absolutely and without regard for Law" (p. 259).

a struggle to limit, resist, and escape from power.

POWER AND SOCIAL CONTROL

If the line between intercursive or bilateral power relations and the symmetrical give-and-take of most informal social interaction is sometimes difficult to draw, so is the line between the exercise of power and social control in general. If norms are the prevailing rules of conduct in a group enforced by positive or negative sanctions, then does not all normatively regulated social behavior involve power exercised by the group or community over the individual? Individuals, to be sure, undergo a process of socialization in the course of which they internalize many group norms. When social controls have been internalized, the concept of power is clearly inapplicable, but to assume that most conformity to norms is the result of internalization is to adopt what I have elsewhere called an "oversocialized conception of man."[10] Moreover, the power of the parent over the child precedes the child's internalization of parental rules; the child's superego is formed by his identification with the parents whose commands the child eventually issues to himself without reference to their original external source. Submission to power is the earliest and most formative experience in human life. As R. G. Collingwood (no Freudian, to the best of my knowledge) put it: "A man is born a red and wrinkled lump of flesh having no will of its own at all, absolutely at the mercy of the parents by whose conspiracy he has been brought into existence. That is what no science of human community . . . must ever forget."[11]

But to collapse the concept of power into that of social control is obviously unsatisfactory and vitiates all need for a separate concept. We must distinguish the diffuse controls exercised by the group over socialized individuals from direct, intentional efforts by a specific person or group to control another. In contrast to several recent writers, I do not see how we can avoid restricting the term "power" to intentional and effective control by particular agents—"the production of intended effects by some men on other men," to adapt slightly Bertrand Russell's well-known definition of power.[12] It may be readily acknowledged that intentional efforts to influence others often produce unintended as well as intended effects on their behavior—a dominating and overprotective mother does not intend to feminize the character of her son. But *all* social interaction produces such unintended effects—a man does not mean to plunge his wife into despair by greeting her somewhat distractedly in the evening, nor does a woman mean to arouse a man's sexual interest by paying polite attention to his conversation at a cocktail party. The effects others have on us, unintended by and even unknown to them, may influence us more profoundly and permanently than direct efforts to control our sentiments and behavior. Dahl and Lindblom call such unintended influence "spontaneous field control" and sharply distinguish it from forms of deliberate control.[13]

But the distinction between intentional and unintentional effects on others may seem to be a hairsplitting and unrealistic

[10] Dennis H. Wrong, "The Oversocialized Conception of Man in Modern Sociology," *American Sociological Review*, XXVI (April, 1961), 183–93.

[11] R. G. Collingwood, *The New Leviathan* (New York: Clarendon Press, 1942), p. 176.

[12] Russell's definition is from Bertrand Russell, *Power: A New Social Analysis* (London: George Allen & Unwin, 1938), p. 25. Recent writers who have defined power in such a way as to include *unintended* effects on others are Van Doorn, *op. cit.* (see n. 5 above), p. 12; and Felix E. Oppenheim, *Dimensions of Freedom: An Analysis* (New York: St. Martin's Press, 1961), pp. 92–95. However, writers who have either implicitly or explicitly restricted the term power to the *intentional* control of others include Max Weber, Edward Shils and Herbert Goldhamer, Harold Lasswell and Abraham Kaplan, Talcott Parsons, Raymond Aron, and Arnold Rose.

[13] Robert A. Dahl and Charles Lindblom, *Politics, Economics and Welfare* (New York: Harper & Bros., 1953), pp. 99–104.

one. Does not the elephant who dances with the chickens exercise a power of life and death over them even though he has no wish to trample them underfoot? Do not the acts of governments today shape and destroy the lives of millions even though these outcomes in no way were intended or even foreseen by shortsighted statesmen? Yet rather than equate power with all forms of influence, unintended as well as intended, it seems preferable to stress the fact that the intentional control of others is likely to create a relationship in which the power holder exercises unintended influence over the power subject that goes far beyond what he may have wished or envisaged at the outset. To revert to a previous example: it is only because a mother exercises socially approved power over her children that she may unintentionally shape their personalities along lines that are repugnant to her and defeat her most cherished hopes. So to confine the term "power" to the exercise of intentional control is not to make power less important and pervasive in history and society, so long as it is recognized that power over others provides the most favorable setting for affecting their lives in myriad ways transcending the power holder's intention. The study of the unintended consequences of social action may well be one of the major tasks of the social sciences,[14] but this does not preclude the necessity of carefully distinguishing between outcomes that are intended and those that are not.

POWER AS ACTUAL AND POTENTIAL

Power is usually defined as a *capacity* to control others. Yet the capacity to perform acts of control and their actual performance are clearly not the same thing; power when thought of as a capacity is a dispositional concept. What Gilbert Ryle says about "knowing" and "aspiring" also applies to power conceived of as a capacity to control others: "To say that a person knows something, is not to say that he is at a particular moment in process of doing or undergoing anything, but that he is able to do certain things, when the need arises, or that he is prone to do and feel certain things in situations of certain sorts."[15] Ryle calls verbs such as "to know," "to aspire," and "to possess" *dispositional* words that refer to recurrent tendencies of human beings to behave in certain ways, in contrast to the *episodic* words we employ to refer to specific behavioral events. The distinction between "having power" and "exercising power" reflects the difference between viewing power as a dispositional and as an episodic concept.[16] Unfortunately, power lacks a verb form, which in part accounts for the frequent tendency to see it as a mysterious property or agency resident in the person or group to whom it is attributed. The use of such terms as "influence" and control," which are both nouns and verbs, as virtual synonyms for power, represents an effort (not necessarily fully conscious) to avoid the suggestion that power is a property rather than a relation.[17]

The evidence that a person or group possesses the capacity to control others may be the frequency with which successful acts of control have been carried out in the past. Or power may be imputed to an actor when the probability of his intending to achieve and effectively achieving control over another actor is rated high, even though he may not have previously exercised such control. But for A's power over B to be real when it is not actually exercised, B must be convinced of A's capacity to control him and must modify his behavior accordingly. Thus a mother has power over her child when the child refrains from doing something in anticipation of her displeasure even when the mother is not present to issue a specific prohibition. Similarly, the President

[14] Robert K. Merton, *Social Theory and Social Structure* (Glencoe, Ill.: Free Press, 1957), p. 68.

[15] Gilbert Ryle, *The Concept of Mind* (New York: Barnes & Noble, 1949), p. 116.

[16] See the full discussion of this distinction by Oppenheim, *op. cit.* (see n. 12 above), pp. 100–102.

[17] See the discussion of this distinction by Van Doorn, *op. cit.* (see n. 5 above), pp. 8–10.

has power over Congress when congressional leaders decide to shelve a bill in anticipation of a presidential veto.

Max Weber's conception of power as "the probability that one actor in a social relationship will . . . carry out his own will" must be interpreted as attributing the estimate of probability to the judgment of the power subject.[18] Otherwise, only overt acts of control or the subsequent imposition of a sanction after the performance of an uncontrolled or free act will validate an imputation of power made by an observer, say a sociologist, and the distinction between power as potential and as actual loses relevance. The unexpected intervention of A or his imposition of a sanction may, of course, establish the credibility of his power with respect to B's future behavior without the necessity of overt acts of control by A.

When power is regarded as a capacity, therefore, the distinction between potential and actual is inherent in its very definition.[19] Yet even when empirical students of power advance the usual definition, they frequently ignore it in practice by treating power as identical with its actual exercise and confining themselves to its manifestations in action.[20] Actual participation in decision making or observed "initiation of interaction for others" becomes the criterion of power. Power is thus seen as a type of social behavior that can be directly observed and unambiguously identified. (Frequently, of course, acts of power may have to be retrospectively reconstructed: The observer, at least where institutionalized power relations between groups are involved, is rarely right at the elbow of the decision maker.)

Those who prefer to equate power with its actual exercise in a social relationship fear the subjectivity that appears to be implicit in the view that actors may "have" power without exercising it so long as belief in the probability of their exercising it limits the choices of others. As I have already indicated, treating power as a capacity runs the initial risk of seeing it as vested too exclusively in the power holder "from where it radiates to others."[21] But once we correct this possible overemphasis by insisting that power is always a relation between two actors, do we not then risk going to the opposite extreme of making it dependent entirely on what is in the mind of the power subject? Are we not in effect saying that someone's belief that someone else has power actually confers power on the latter? Advocates of the so-called decisional method of studying community power structures have leveled this accusation at researchers who have used the "reputational method."[22] Defenders of the reputational method have replied that the attribution of power to someone may indeed confer it on him. However, if this were *always* the case, popular beliefs about the distribution of power would never be false. Since it is doubtful that the users of the reputational method would themselves make so extreme a claim, it is obviously necessary to study the actual exercise of power to confirm or disprove the reputations for power revealed by opinion surveys. Supporters of the decisional method, however, have often recoiled so vigorously from the suggestion that reputation

[18] Max Weber, *On Law in Economy and Society*, ed. and annoted by Max Rheinstein, trans. Edward Shils and Max Rheinstein (Cambridge, Mass.: Harvard University Press, 1954), pp. 322–30.

[19] Arnold M. Rose notes that many social scientists have in effect taken this position without always consistently committing themselves to its implications (Rose, *The Power Structure: Political Process in American Society* [New York: Oxford University Press, 1967], pp. 44–50).

[20] *Ibid.*, pp. 47–48.

[21] Van Doorn, *op. cit.* (see n. 5 above), p. 9.

[22] See Nelson W. Polsby, *Community Power and Political Theory* (New Haven, Conn.: Yale University Press, 1963), pp. 47–53; Robert A. Dahl in William V. D'Antonio and Howard I. Ehrlich (eds.), *Power and Democracy in America* (Notre Dame, Ind.: University of Notre Dame Press, 1961), pp. 101–4; Raymond Wolfinger, "Reputation and Reality in the Study of Community Power," *American Sociological Review*, XXV (October, 1960), 636–44.

for power is equivalent to having power that they have fallen back on narrowly behavioristic definitions, equating power with its observable exercise.

Yet to avoid such a suggestion, one need only repeat the line of reasoning followed in correcting the opposite inference that power is a kind of force emanating from the power holder. *If* an actor is believed to be powerful, *if* he knows that others hold such a belief, and *if* he encourages it and resolves to make use of it by intervening in or punishing actions by the others who do not comply with his wishes, ***then*** he truly has power and his power has indeed been conferred upon him by the attributions, perhaps initially without foundation, of others. But if he is unaware that others believe him powerful, or if he does not take their belief seriously in planning his own projects, then he has no power and the belief that he has is mistaken, a misperception of reality. We would not say that the residents of a street had power over a man with paranoid delusions who refused to leave his house because he feared attack by his neighbors. Nor would we say that the American Communist party actually has great power because a certain segment of the public, influenced by right-wing ideologists, believes this to be the case.

Raymond Aron has pointed out that the English and German languages employ the same terms, power and *Macht*, respectively, to refer both to the capacity to do something and to the actual exercise of the capacity.[23] In French, however, there are two distinct words: *puissance*, indicating potential or capacity, and *pouvoir*, indicating the act. While the prevailing usage of both terms, according to Aron, has tended to blur this distinction between them and to create new, less meaningful distinctions, Aron argues that *puissance* should be regarded as the more general concept of which *pouvoir* is a particular form. Unfortunately, this terminological distinction does not exist in English, but the idea of "potential" should be regarded as implicit in all non-behavioristic definitions that treat power as in some sense a capacity distinguishable from its overt exercise. Robert Bierstedt is correct in maintaining that "it may seem redundant to say so, but power is always potential," although his equation of power with ability to impose sanctions ultimately reducible to physical force is too narrow a conception.[24] The term "latent" as a modifier of power is perhaps preferable to "potential" in suggesting the covert presence of something in contrast to the weaker implication of "potential" that something *may* assert its presence under purely hypothetical conditions.

This weaker implication has been the source of much conceptual confusion, encouraging a failure to distinguish between potential power as an aspect of all power and merely possible power. The notion of power as a "potential" is often employed in a different sense, a sense that stresses the hypothetical *possibility* of control over others rather than the estimate by others of the *probability* of such control in choosing their own courses of action. Dahl's distinction between the possession of political resources and their actual use is not simply another version of the actual-potential dimension, as I have stated it.[25] When Dahl points out that "one wealthy man may collect paintings; another may collect politicians,"[26] we are not entitled to ascribe potential power to the rich art collector: He possesses no more than the abstract possibility of power should he decide to make different use of his financial resources. Likewise, the Y family in Muncie possessed merely possible power, whereas the power

[23] Raymond Aron, "*Macht, Power,* Puissance: prose démocratique ou poésie démoniaque?" *Archives Européennes de Somiologie,* V (1964), 27–33.

[24] Robert Bierstedt, "An Analysis of Social Power," *American Sociological Review,* XV (December, 1950), 735.

[25] Robert A. Dahl, *Who Governs?* (New Haven, Conn.: Yale University Press, 1961), pp. 271–75.

[26] *Ibid.*, p. 271.

of the X family was both actual and potential.[27]

Dahl's contrast between the possession and the use of resources fails to bring out fully the merely hypothetical power of those who possess resources, because he chiefly discusses the resources of individuals rather than of social groups or categories. If someone possessing ample political resources is widely believed to be powerful even though he does not in fact use his resources for political ends, he may on learning of his reputation for power resolve to profit from it politically. He would then become a case in which the reputation for power led to the eventual possession and exercise of power. Since the simple decision of an individual to divert his resources from one use to another may suffice to translate his possible power into real power, the distinction between *power as potential* and *potential for power*,[28] or, in the terminology I prefer, between *latent* power and *possible* power, is blurred when the resources of an individual are considered. By contrast, in the case of social groups or categories, the achievement of solidarity, common goals, social organization, and leadership is necessary to convert possible power into realized power. The widespread belief that a group, say, bankers or government bureaucrats, is powerful cannot possibly by itself confer power on the group if it is in fact unorganized and lacking in common goals and interests. The study of power relations among groups is a more important task for political sociology than the identification of powerful individuals. It is surely one of the main goals of political sociology to specify the variable conditions under which groups achieve sufficient social organization to become effective contenders for power—when a *Klasse an sich* will become a *Klasse für sich* possessed of full "class consciousness" (Marx), when "the rise of societal or even of communal action from a common class situation"[29] will take place (Weber), when the resource of superior numbers will lead to the mobilization of a majority to check the operation of Michels' "iron law of oligarchy," or when any aggregate of individuals with like interests will perceive their common interests (MacIver) and become an organized power-seeking group.

To ignore the disjunction between possible power and realized power, both actual and potential, is a classic error in political analysis, one evident both in the crude "conspiracy theories of history" propagated by demagogues and in scholarly elitist interpretations of the social order. Its essence is to attribute power to Jews, bankers, interlocking corporate directorates, bureaucrats, labor bosses, or even professors, because it can be plausibly argued that these groups could exercise great power if they were cohesive and their members shared a common political aim. The fact that this may not be the case, or that it is true to only a limited degree, is ignored or suppressed. ("If only the bankers *would* conspire," Keynes is alleged to have once remarked.)

Sociologists, as well as the people they study, may mistakenly attribute power to groups whose power is merely possible and where a long process of social mobilization and indoctrination would have to take place before it could become a reality. Insofar as sociologists have assumed that some groups in society, for example, the upper classes or the "economic dominants," are powerful because it seems obvious that they could control others were they so disposed, there is justice in some of the criticisms that have been directed against sociological approaches to the study of community power which seek to locate the ultimate seats of power in the group structure of society rather than in formal political institutions.

[27] Robert S. Lynd and Helen M. Lynd, *Middletown in Transition* (New York: Harcourt, Brace, 1937), p. 91.

[28] Rose, *op. cit.* (see n. 19 above), p. 47.

[29] Max Weber, "Class, Status, Party," in *From Max Weber: Essays in Sociology*, trans. and ed. Hans Gerth and C. Wright Mills (New York: Oxford University Press, 1946), p. 183.

And insofar as sociologists have uncritically accepted the possibly mistaken attributions of power put forward by their respondents, there is justice in many of the criticisms of the reputational method. But nothing is gained in reacting to these errors by denying the existence of latent power and maintaining that only overt behavior constitutes power. Such an approach ignores Weber's insistence that society is a system of meanings as well as of interacting persons and confines us to the appearance and surface of social life.

NEW YORK UNIVERSITY

Mass Society and Political Movements: A New Formulation[1]

Maurice Pinard

ABSTRACT

The theory of mass society is criticized for its consideration of the sole restraining effects of primary and secondary groupings and for its failure to recognize that these groupings can also remain neutral or exert mobilizing effects, that they have important communicating effects for the diffusion of a new movement, and that these effects are strongly affected by the presence of strains, a factor which is underestimated by mass theory. On the basis of these points, it is suggested that under severe strains, mobilizing and communicating effects will tend to predominate over restraining effects, at least in the early phases, and that integrated individuals and pluralist societies will be more prone to political movements than atomized people and mass societies. The theory of mass society is paradoxically sound only when there are no or few strains, that is, when the chances of a movement are slim to start with, or when the modes of participation in a movement, rather than the attraction to it, are considered.

In the contemporary social sciences, the theory of mass society has become a very popular theoretical perspective for the analysis of political movements. For many, this theory is held to be the most pertinent and comprehensive statement of the genesis of modern mass movements. The purpose of this paper is to summarize some of the claims of this theory and to present a critique of these views. This will lay the ground for a reformulation of the model, which will take into account a wider range of theoretical as well as empirical concerns.

THE CLAIMS OF MASS THEORY

According to mass theory,[2] the source of the proliferation of mass behavior and mass movements[3] in modern society has to be sought in the characteristics of its social structure, more specifically, in the weakness of modern societies' integrative functions. The local community, a primary source of integration in feudal or communal society, has lost its functions; the occupational community is weak, when not altogether absent; religious, political, and other voluntary associations play an integrative role—and a weak one, at that—for relatively few people. For some, even primary attachments are weaker, and atomization of the individual prevails.[4]

[1] A paper read at the 62d Annual Meeting of the American Sociological Association, San Francisco, August, 1967. I owe much to both Jerome Kirk and Donald Von Eschen, with whom some of the ideas presented here were developed while engaged in a study of the sit-in movement. James Coleman and Arthur Stinchcombe made very useful comments on an earlier draft. The paper is adapted from the author's *The Rise of a Third Party: The Social Credit Party in Quebec in the 1962 Federal Election* (Englewood Cliffs, N.J.: Prentice-Hall, forthcoming).

[2] We are relying mainly on William Kornhauser's *The Politics of Mass Society* (Glencoe, Ill.: Free Press, 1959). But see also Philip Selznick, *The Organizational Weapon* (Glencoe, Ill.: Free Press, 1960). For a concise statement of the theory, see Joseph R. Gusfield's critique of it: "Mass Society and Extremist Politics," *American Sociological Review*, XXVII (1962), 19–30, esp. 19–22.

[3] In this paper we shall make no distinction between different kinds of political movements, as, for instance, between reform, mass, and totalitarian movements (see Kornhauser, *op. cit.* [n. 2 above], p. 50). The reason for our decision will be presented later.

[4] Though Kornhauser does not see personal isolation as conducive to mass movements (see *op. cit.* [n. 2 above], pp. 90–93, 217–218), he differs on this with others. See, for instance, Hannah Arendt, *The Origins of Totalitarianism* (Cleveland, Ohio: World

RESTRAINING EFFECTS

But what are the mechanisms through which strong intermediate structures are assumed to prevent the growth of political movements? Many can be suggested, but let me summarize them immediately under a single heading: strong attachments and identification to social groupings produce *restraining effects* on people. The mechanisms through which this is achieved can be enumerated briefly.[5] First, if there is a strong network of secondary groups, these groups will tend to check one another, and their members will be more selective in their political participation.[6] Second, intermediate organizations are likely to create a structure of social attachments and loyalties between the elites and the non-elites and thus lead to social restraints in the latter's demands from the elites and in their evaluation of the elites' decisions.[7] Third, secondary groups are likely to socialize their members to accept the rules of the game and to struggle for their goals through discussions, negotiations, and compromises, rather than through the use of radical means. Fourth, organizations enlarge the range of proximate concerns of their members and are the source of various cross-pressures with regard to the latter's objectives; they thus prevent the development of a single overriding goal and ideology so characteristic of a social movement.[8] Fifth, organizations can be a source of sanctions for members who might be tempted to engage in a social movement to secure their objectives outside the routine channels approved by the organization. Sixth, participation in an elaborate set of intermediate groups is likely to foster the development of a sense of political efficacy, while the opposite engenders alienation and anxiety and the search for political ventures.[9] Finally, secondary groups can be the source of rewarding primary attachments and thus procure a more satisfactory life and a greater readiness to accommodation with the status quo.[10]

In short, the main proposition of mass theory states that a society with mass tendencies, because it lacks restraining mechanisms, cannot prevent its members from turning to mass behavior and to mass movements.

A CRITIQUE OF MASS THEORY

This theory has already been subjected to serious criticisms.[11] We would like to recast some of these criticisms and present additional ones, in a way which permits a reformulation of the theory. As it now stands, it seems that the theory suffers from some observational and theoretical biases.

Publishing Co. [Meridian Books], 1958), chap. x, esp. pp. 318, 323–24.

[5] For a summary of many of these mechanisms, see Donald Von Eschen, Jerome Kirk, and Maurice Pinard, "Organizations and Disorderly Politics: The Case of the Negro Sit-In Movement," a paper read at the 59th Annual Meeting, American Sociological Association, Montreal, 1964. The present paper is a complement to that paper in two main respects: While the first paper examined the relevance of mass theory for an incipient movement with strong cadres but a weak following, the present paper is concerned with social movements having a mass support; moreover, the first paper was primarily concerned with the role of alienated organizations, while this paper considers as problematic the role of the entire intermediate structure.

[6] Kornhauser, *op. cit.* (n. 2 above), p. 82.

[7] *Ibid.*, p. 67; see also James S. Coleman, *Community Conflict* (Glencoe, Ill.: Free Press, 1957).

[8] Kornhauser, *op. cit.* (n. 2 above), p. 64.

[9] *Ibid.*, p. 32; see also Arthur G. Neal and Melvin Seeman, "Organizations and Powerlessness: A Test of the Mediation Hypothesis," *American Sociological Review*, XXIX (1964), 216–26.

[10] Another important effect of organizational integration must be mentioned: Organizations can act as channels for the redress of their members' grievances and thus prevent the recourse to nonroutine means of solving their problems. But this is a different function of secondary groups and will be dealt with later.

[11] See in particular Gusfield, *op. cit.* (n. 2 above); Daniel Bell, "America as a Mass Society: A Critique," in his *The End of Ideology* (rev. ed.; New York: Collier Books, 1962), chap. i; Von Eschen *et al.*, *op. cit.* (n. 5 above).

To start with, a specification must be entered. Mass theory seems to assume that all the groupings of a strong intermediate structure would always and in all areas of their members' lives act as important *reference groups*. Research indicates, however, that a large number of organizations do not actually represent reference points for their members, even in small rural communities.[12] In this regard, a pluralist society, with a proliferation of autonomous intermediate groupings, could be relatively little more restraining than a mass society. It would seem, in fact, that if restraining effects are to be ascribed to the intermediate structure, primary groups and the social networks of small communities, rather than most associations and organizations, are the groupings to be considered, since they are more likely to act as reference points.

MOBILIZING EFFECTS

Even if we assume that the various components of the intermediate structure are taken as reference points, we must still raise a major criticism: It seems to us that the claim that primary and secondary groups exert restraining effects on their members implies a one-sided view of the role of intermediate groupings. To be sure, no sociologist would question the fact that these groups may exert such effects. But with regard to new political ventures, they may also exert just the opposite type of effects: The intermediate structure may actually, under circumstances discussed below, exert *mobilizing*, rather than restraining, effects. By this, we mean that certain intermediate groups, because of their positive orientations to the means and goals of a social movement, can be a strong force acting to *motivate* and *legitimate* individual as well as group participation in a movement. Between these two extremes, certain groupings can maintain neither a positive nor a negative stand, but simply a neutral, indifferent stand, toward a new movement. In short, the effects of primary and secondary groups can empirically be located at any point on a continuum, ranging from strong restraining to strong mobilizing effects, with an intermediate neutral point.

Mass theorists do not always deny the possibility that primary attachments in fact can play a mobilizing role. Actually, this is the main effect some assign to primary groups.[13] But this is a bias in the opposite direction; it neglects the potential restraining effects of primary groups, which must also be considered.

But what constitutes a major shortcoming of mass theory is its failure to recognize that secondary groupings can also exert neutral or mobilizing functions. It may be empirically true that a large number of organizations in affluent societies will usually exert restraining effects, but not all organizations under any circumstances will do so. There are always certain components of the intermediate structure which exhibit a diffuse orientation of alienation vis-à-vis most or all features of the larger society, and there are certain other components which are alienated against specific aspects of the society, that is, which perceive their subjective interests as well as their norms and goals in harmony with those of a social movement. Obviously, such groups will stimulate rather than restrain participation in social movements.[14]

[12] See David E. W. Holden, "Associations as Reference Groups: An Approach to the Problem," *Rural Sociology*, XXX (1965), 63–74.

[13] Kornhauser writes that: "the individual is more likely to engage in new ventures when he receives support from his close associates" (*op. cit.* [n. 2 above], p. 93). In an excellent case study of a hysterical contagion, the authors also distinguished the two opposite types of effects; the primary groups were seen as both "resistors" and "conductors" (see Alan C. Kerckhoff, Kurt W. Back, and Norman Miller, "Sociometric Patterns in Hysterical Contagion," *Sociometry*, XXVII [1965], pp. 2–15).

[14] That this should have been overlooked is in fact surprising, given the often made observation that social movements and revolutions are built upon the foundations of elites and organizations displaying some form of alienation against the larger society. This was as true in the great revolutions of the nineteenth century as it is now in

Still, this only implies a static view of organizational life. All organizations are not necessarily *always*, and to the same degree, conformist *or* alienated. Under certain conditions, some organizations, or sections of them, may *become* alienated, at least with regard to specific social arrangements, and they will then positively sanction non-routinized ways of behavior.

In short, whenever pre-existing primary and secondary groupings possess or develop an ideology or simply subjective interests congruent with that of a new movement, they will act as mobilizing rather than restraining agents toward that movement. And their members will be, not late joiners, but the early joiners of the movement, much earlier than the atomized masses.[15]

DIFFUSION THEORY

These are not the only functions of the intermediate structure which have to be taken into consideration in a reformulated model. The theory of mass society also disregards the accumulated propositions of diffusion studies[16] as well as some propositions of the theory of conflict; both sets of propositions, however, would lead one to make predictions which in important respects are opposite to those of the former theory.[17]

With regard to diffusion theory, mass society theorists overlook the fact that a social movement is basically a new item in a culture and that as such its adoption implies the processes of diffusion. But as the studies of diffusion have shown, the adoption of new ideas and practices, and therefore of new social movements, does not take place in a social vacuum.[18] If there is in that field one firm empirical generalization which can be made, it is that the higher the degree of social integration of potential adopters, the more likely and the sooner they will become actual adopters, and that, on the other hand, near-isolates tend to be the last to adopt an innovation.

Two important mechanisms of the intermediate structure overlooked by mass theory would seem to account for the proposition that social integration is conducive to diffusion. First, of course, are what we have called the mobilizing effects of social groupings, that is, their motivation and legitimation effects, given, presumably, a state of dissatisfaction with prior arrangements.[19]

COMMUNICATING EFFECTS

But a second mechanism can be fruitfully distinguished from the former one at the analytical level. I suggest that one important mechanism which produces the positive association between integration

the civil rights movement in the United States, to mention but two examples. See S. M. Lipset, *Agrarian Socialism* (Berkeley: University of California Press, 1950), chap. x. Lipset wrote that "the rapid acceptance of new ideas and movements in Saskatchewan can be attributed mainly to the high degree of organization" (p. 206). See also Crane Brinton, *The Anatomy of Revolution* (New York: Vintage Books, 1960), esp. pp. 41 ff., 106 ff.; Neil Smelser, *Theory of Collective Behavior* (New York: Free Press, 1963), pp. 274 ff., 282 ff.

[15] Von Eschen *et al.*, *op. cit.* (n. 5 above).

[16] Surprisingly, the sociology of diffusion and that of collective behavior, though both are concerned with the appearance of new items in a culture, tend to develop independently of one another. For a notable exception, however, see Kerckhoff *et al.*, *op. cit.* (n. 13 above). Their conclusions are not very different from ours.

[17] For two syntheses of empirical generalizations in the field of diffusion, see Herbert F. Lionberger, *Adoption of New Ideas and Practices* (Ames: Iowa State University Press, 1960); and Everett M Rogers, *Diffusion of Innovations* (New York: Free Press, 1962). With regard to conflict theory, we have in mind some of the propositions in Coleman, *op. cit.* (n. 7 above).

[18] A similar idea, from a different point of view, is expressed by Lewis M. Killian (see his "Social Movements," in Robert E. L. Faris, *Handbook of Modern Sociology* [Chicago: Rand McNally, 1964], p. 431).

[19] On the basis of their empirical evidence, students of diffusion tend to overlook the fact that restraining effects can theoretically predominate over mobilizing effects (for instance, under relative satisfaction with existing arrangements).

and adoption is what I shall call the *communicating effects* of the intermediate groupings. Organizations and social networks are excellent channels of communication, transmitting information about new ideas and practices; more generally, they contribute in developing among their members a certain degree of sophistication: They enlarge their members' field of attention and perception, as well as contributing to the development of leadership and other organizational skills. Thus, participants in various social groupings, particularly in primary groups, should be more likely to learn about a new social movement—its leadership, its goals, its successes in recruiting members—than atomized people.[20] It is important to note that here we do not distinguish whether the intermediate groupings have a positive or a negative orientation toward the new movement; all groupings, whether characterized by a restraining, mobilizing, or neutral potential, can exert communicating effects and as such can be conducive to the rise of new movements.[21]

Similarly, certain aspects of the theory of community conflict are at odds with mass theory.[22] Notice first that community conflicts are typically uninstitutionalized ways of coping with a given problem, as are social and political movements.

But Coleman describes a community conflict as something that usually originates between the administration of a community and some center of active opposition while the majority of the people remain passive.[23] Moreover, he states that the *more* integrated among these people will be the *first* to join in the controversy; lower-status people, for instance, lacking identification with and attachment to the community and its leaders, will less often and less easily be drawn into a conflict.[24] This is in direct contradiction with what mass theory would predict.

Notice, however, that Coleman also states that "when and if" the least integrated are drawn into a controversy, they are likely to make it degenerate into a "fight to the finish," while the more integrated citizens, though more easily recruited, are more likely to be restrained because of various cross-pressures.[25] This is apparently more in agreement with mass theory; the reason is that, while conflict theory distinguishes between *attraction* to a conflict and *intensity of participation* in it, mass theory fails to make such a distinction. Basically we think the propositions of mass theory are sound to account for what happens after—but only after—the least at-

[20] In at least one case study the failure of a new movement was actually attributed in part to communication failure due to the lack of pre-existing organizational networks complementing the primary groups and the mass media (see Maurice Jackson, Eleanora Petersen, James Bull, Sverre Monsen, and Patricia Richmond, "The Failure of an Incipient Social Movement," *Pacific Sociological Review*, III [1960], 35–40).

[21] Indeed, among collective behavior theorists, mass theorists are an exception in their oversight of the importance of communication for the development of collective behavior. Consider, for instance, Blumer's stress on circular reaction, milling, collective excitement, and social contagion, or Smelser's stress on the necessity of communication channels for the development of collective behavior. Herbert Blumer, "Collective Behavior," in Alfred M. Lee (ed.), *Principles of Sociology* (rev. ed.; New York: Barnes & Noble, 1951), esp. 170–77; and Smelser, *op. cit.* (n. 14 above), *passim*. See also Ralph H. Turner's review of the field, "Collective Behavior," in Robert E. L. Faris, *Handbook of Modern Sociology* (Chicago: Rand McNally, 1964), pp. 382–425, esp. 397–409.

[22] See Coleman, *op. cit.* (n. 7 above).

[23] *Ibid.*, pp. 8–9.

[24] *Ibid.*, pp. 21–22. This model was substantiated in routine politics: It was found that more integrated communities were more likely to back a fluoridation referendum than less integrated ones, presumably because of the greater restraining effects in the former; but when communities of the first type defeated the proposition, they were more likely to do so with greater unanimity than those of the second type, presumably because of greater mobilizing and informing effects. See Maurice Pinard, "Structural Attachment and Political Support in Urban Politics: The Case of Fluoridation Referendums," *American Journal of Sociology*, LXVIII (1963), 513–26.

[25] Coleman, *op. cit.* (n. 7 above).

tached are drawn into a conflict or a social movement:[26] Communicating and mobilizing effects are no longer effective, but the restraining effects of other groups could still affect their modes of participation. What primarily concerns us here, however, is attraction to a new movement, not the modes of participation in it.[27]

THE ROLE OF STRAINS

So far it has been claimed that under certain circumstances, components of the intermediate structure can exert mobilizing effects rather than restraining ones. The specification of one major set of such circumstances leads us to another major criticism of mass theory. Basically, mass theory, with or without the qualifications made above, deals only with some of the *conditions of conduciveness* for the rise of social movements and as such is a more limited model than it pretends to be: The intermediate structure can limit or foster the rise of political movements, but it is not, in itself, a sufficient condition for their appearance. In particular, the presence of strain is a crucial condition.[28]

Once this distinction is made, one soon realizes that the crucial and necessary element of strain, as distinct from that of conduciveness, tends to be seriously underestimated in mass theory. To be sure, some sources of strain are considered—economic crises, for instance—but they are only part of a larger set of forces, such as the processes of democratization, industrialization, and urbanization, and these forces all lead to mass movements, not primarily because they produce deprivations of various sorts but above all because they weaken the system of attachments of the non-elites to the elites.[29]

Contrary to this, we subscribe to the idea that strains are per se a necessary independent factor and a more important one than the conditions of conduciveness mass theory deals with.[30] Moreover, and this is theoretically important, we claim that strains will affect the various functions of the intermediate structure which have been discussed so far, or, to put it differently, that *strain will affect the conduciveness of the intermediate structure*. Under severe strains, and given that no other institutionalized channels for the redress of grievances are available (another condition of conduciveness to be discussed below[31]), conformist components of the intermediate structure can become elements which encourage, rather than limit, the growth of a new movement.

On the one hand, under severe strains, individuals may withdraw psychologically and/or physically from the intermediate groups likely to exert restraining effects on

[26] Indeed, Kornhauser quotes Coleman, stressing his proposition on the degree of participation, which he implicitly applies to the attraction to the movement, though not making any distinction between the two (see Kornhauser, *op. cit.* [n. 2 above], pp. 66–67).

[27] Suffice it to say that it is indirectly supported by findings of the sit-in movement study: It was found that the least integrated participants, as revealed by their lower social status, were late joiners, but once they had joined they were the most active participants. See Maurice Pinard, Jerome Kirk, and Donald Von Eschen, "The Growth of the Sit-In Movement: Some Processes" (McGill University, Dittoed). See also Lipset, *op. cit.* (n. 14 above), p. 167.

[28] For the distinction between strain and conduciveness as necessary conditions for the appearance of collective behavior, see Smelser, *op. cit.*, *passim*. To be sure, the lack of social participation, but above all the lack of primary group ties, can itself be a source of strains. However, I suggest that the frequency and severity of such strains are often grossly overestimated.

[29] See Kornhauser, *op. cit.* (n. 2 above), pp. 119–74, esp. 162–67.

[30] I would not go as far as Bell (*op. cit.* [n. 11 above]), who seems to discount completely the role of the intermediate structure: "It is not the mass society, but the inability, pure and simple, of any society to meet impatient popular expectations that makes for a strong response to radical appeals" (p. 32).

[31] Smelser, *op. cit.* (n. 14 above), *passim*.

them[82] and turn toward more neutral or mobilizing agents as reference groups, while at the same time becoming very susceptible to the communicating effects[83] of all the groups they participate in.[84] On the other hand, and of greater consequences, the secondary groups themselves, under severe strains, can develop some degree of alienation, oppose some aspects of the status quo and, if no other alternatives are opened, adopt a neutral or even a positive orientation to new movements.[85] This brings us back to an earlier point. We have seen that intermediate groupings can become a source of positive, rather than negative, sanctions regarding non-routine politics. We now add that the appearance of strains is a major determinant of such changes.

STRAINS AND TYPES OF MOVEMENTS

Before we conclude, two additional points must be clarified. It should be emphasized that the severity or mildness of the strains should be considered relative to the strength of the restraining effects of conformist organizations. Obviously, strong restraining effects will need more severe strains to break them than will weak ones. Conversely, the strength of the restraining effects will in large measure depend on the evaluation made of the new movement: The more negative the evaluation of its ideology, of its means and goals, the stronger will be the restraining effects. Hence, an extremist or a "mass" movement may require more severe strains to attract the integrated segments of the population than a mildly reformist movement. But this does not mean that one must have different models to deal with these two types of movements.

ORGANIZATIONS AS CHANNELS FOR THE REDRESS OF GRIEVANCES

Finally, when the mechanisms which, according to mass theory, lead to restraining effects were enumerated, an important one was temporarily put aside. Let us return to it. It can be argued that an elaborate intermediate structure constitutes a barrier against social movements for the simple reason that it provides channels for the redress of grievances. For instance, associations and organizations can act as pressure groups or otherwise help people to work routinely toward the solution of their problems.[86]

From what precedes, it should already be clear that we do not mean to disregard this function of the intermediate structure. If mass theory simply stated that in a mass society movements arise because of the lack of channels for the redress of grievances, then the theory, though incomplete, would be sound in that respect.[87] But mass theory states much more than that, and this is where it fails, as we have tried to show. Not all components of the intermediate structure are fit to work toward the redress of a given set of grievances (think of the primary groups, the community so-

[83] Turner mentions the possibility of "neutralization or inapplicability of existing norms" (*op. cit.* [n. 21 above], p. 390).

[83] Students of diffusion tend to overlook the role of strain or to assume their existence, though Lionberger explicitly states that "for adoption of new practices to take place . . . , there must be a feeling that the present situation is not necessarily the best way or the only way to reach their goal. Dissatisfaction with conditions as they exist . . . is prerequisite to change" (*op. cit.* [n. 17 above], p. 14).

[84] For a study which exemplifies these processes, see Jeffrey K. Hadden and Raymond C. Rymph, "The Marching Ministers," *Trans-Action* (September–October, 1966), pp. 38–41.

[85] An excellent case study of such a process, which was instrumental in our rethinking of this problem, is Alvin W. Gouldner's *Wildcat Strike* (Yellow Springs, Ohio: Antioch Press, 1954). Notice that the wildcat strike was started, not by atomized workers, but by a disenchanted clique of the workers' union.

[86] Kornhauser, *op. cit.* (n. 2 above), p. 82.

[87] According to Smelser (*op. cit.* [n. 14 above], *passim*), the lack of routine channels for the redress of grievances is an important condition of conduciveness for collective behavior.

cial networks, leisure and religious associations when a modern society is facing an economic depression), while potentially all can act as communication and mobilization centers for a new movement. More importantly, even those groupings who might act as channels will not necessarily be effective in that role; they may fail in their efforts and turn with their members to non-routine means. It is our claim that a society which has a highly pluralist structure, but no channel, or no effective channel, for the redress of a given set of grievances will turn faster and more easily to social movements than a society with a mass structure. A mass society may be more likely to lack effective channels for the redress of grievances, but it will also lack the extensive networks of attachments and organizations on the basis of which new movements arise.

A REFORMULATED MODEL

On the basis of these ideas, it is possible to make some general propositions regarding the fate of social movements in societies or among individuals varying according to their degree of integration. These propositions, however, cannot be as simple as the previous ones.

The outcome, obviously, depends on the relative strength of the various, and opposite, types of effects discussed above. And it seems that one of the crucial variables here will be the severity and the generality of the existing strains.

If the strains are severe and widespread, alienated groups will tend to be particularly active; moreover, either conformist groups will tend to move from a restraining position to a more neutral or even to a mobilizing position, or their members will tend to elude their restraining effects. Their communicating role, on the other hand, will be working fully. To the extent that this prevails, I would predict that integrated individuals and pluralist societies will be more prone to social and political movements than atomized people and mass societies. This prediction, of course, is just the opposite of that made by mass theorists.

If, on the other hand, strains are not severe or widespread, then restraining effects will tend to predominate over mobilizing effects, and communicating effects will be weak since there is no need for a new movement. Under such circumstances, any new movement, if it should appear, will of course be weak; but to the extent that it succeeds in recruiting some people, the basic proposition of mass theory should hold: the lower the degree of integration, the greater the proneness to social movements. So far, therefore, mass theory appears to be sound, paradoxically, only when strains are limited, that is, when the success of a movement is highly problematic to start with.

At this point, however, a final qualification must be entered. In their study of the diffusion of a new drug, Coleman, Katz, and Menzel identified an interesting process of diffusion: They found that the social networks in which doctors were integrated contributed to the adoption process only in the early stages of the diffusion of the new drug; later on, they seemed "completely *inoperative* as chains of influence. The social structure seemed to have exhausted its effect."[38] This would suggest that the communicating and mobilizing effects which we have postulated should be particularly effective during the early stages of a new movement, but should become inoperative during later stages when the movement has become well known and has gained a large degree of legitimacy in the population. To the extent, and only to the extent, that the permanent restraining effects of some intermediate groupings might still prevail at these later stages, one would

[38] James S. Coleman, Elihu Katz, and Herbert Menzel, "The Diffusion of an Innovation among Physicians," *Sociometry*, XX (1957), 266. The authors found that social networks seemed inoperative if no distinctions between stages were made.

then predict, with mass theorists, a negative relationship between social integration and the success of social movements at that stage.

Finally, let us repeat that this model is primarily concerned with the processes of recruitment to new movements. It is consistent, however, with the idea that the least integrated, once members of a movement, may be more extremist in their behavior than more integrated people.

McGill University

Community Study: Retrospect and Prospect

Conrad M. Arensberg and Solon T. Kimball

ABSTRACT

Community study as a method of social science has undergone extensive transformation since its inception and now exhibits some divergence from the traditional use of such concepts as structure, function, and role. Those who have utilized substantive findings from community studies to establish the validity of a priori theories have not understood the process through which new insights are won in the use of the community-study method. The new emphasis is upon the search for principles of process and the nature of change in contrast to the original descriptive and taxonomic orientation. The development of methods for system, interaction, and event analysis have proved to be the most important theoretical tools in this advance.

When more than three decades ago we were first introduced to the study of communities in complex societies, anthropologists were relatively little interested in that field. Sociologists did community surveys, but they were interested in social problems rather than in the characterization and comparison of ways of life. Cultural and social anthropologists were as yet little concerned with peoples other than the preliterate ones, and the subsequent inclusion of many European, Asian, and Latin-American national cultures, of complex and developed civilizations, in the comparative analysis of institutions and culture patterns and in cross-cultural ethnology had not yet been effected. A beginning had been made in the appearance of the first of the Lynds' volumes on Middletown (in the Midwest) and in Warner's team study of Yankee City (in New England), but these were declaredly pioneer efforts, the first attempts to put anthropological field work, method, and whole-culture analysis to work on literate, complex communities.

Soon after our own work in Ireland, the war years choked off the momentum of these beginnings of the thirties which had inspired us. By then, indeed, studies had been completed in the American South, in Japan, in French Canada as well as in Ireland. But with the end of the near-decade of world war, community studies revived; the momentum of their use was regained and accelerated; and in recent years it has continued to proliferate. Each year the appearance of new studies, in new countries, extends the cross-cultural and geographic range of the extant descriptions and analyses of complex cultures undertaken by this method of anthropological investigation. In greater or lesser measure, as well, the proliferation has steadily increased the store of techniques and the depths of theoretical understanding in the science.

Of equal importance has been the gradual recognition that the community offers the most significant focus, the most viable form of human grouping, for directed innovation, for massive and continuous stimulation of cultural change. The approach to change called "community development" emerged at the end of World War II. It has grown into much vogue and some power, if not always easily or without failures. Programs such as those of the governments of India, Nigeria, Syria, Egypt, Pakistan, Bolivia, among others, efforts such as those of the United Nations in the movement, American foreign aid programs geared in some countries to village development, such occasional brilliant successes as the Cornell University Vicos Project in Peru—all attest since then

to the widespread use of the community as a focus for directed social change.

Since our work, and the pioneer community studies now force attention for their fundamental impact of community study, a collective result from so much scholarly and practical effort, seems to be a changed perspective in social science itself.

There are several explanations. Community studies now force attention for their sheer number and variety. Further, community studies represent a research method raising many interrelated questions at once, and they provide a method of exploring the interconnectedness of the answers to these questions. Community studies have thus taken part in the recent general movement of social science from the treatment of isolated data through the discovery of correlations to the analysis of systemic relationships among social facts. Such interconnectedness among the facts of social systems is challenging today both in the abstract and in the particular. It raises theoretical problems as to the nature of social and cultural phenomena; it requires our explanation of the nature of the different systems of collective restraints operating upon all men and of the integration of the socially supported goals, motives, and values for individuals that combine in such different sociocultural systems. It raises particular problems as to the *raison d'être* of particular customs and social conditions, problems as to why in any one cultural and social system the facts take the form which they take.

The theoretical and the particular problems about social systems gain a common illumination today in community studies through their very multiplicity. With more cultures coming into analysis through such studies the variation of human social systems expands and the comparative interconnectedness of cultural and social data, from system to system, grows in intricacy. Community studies thus have shared in the gain to science which the growth of the comparative method has yielded. Throughout the human sciences interest has moved in recent decades from preliminary definitions of phenomena to analyses of structure among them, to the identification of differential functions among institutions, and to the exploration of the complex cultural integration interconnecting them.

If today's basic search is for principles in functional and systemic stability or of the dynamics of social, economic, and cultural transformation, then the method of community study has strategic advantages which we shall spell out. The science is no longer content with definitions of cultural and social phenomena, or with typologies of these, or with the static properties of systems uniting them. Instead of analyzing social and cultural phenomena for definitional recognition and classification, or for evolutionary classification, the social scientists of today, both in and out of community studies, wish to treat human behaviors, groups, and values in vivo. That is, they wish to treat these things in the contexts in which they appear. Older, atomistic studies, not explorations of the community or social-structural matrix of the data, abstracted social and cultural data all too often away from their contexts in the complex interconnections determining their existence and force, denied social scientists a full view of their systemic relationships in particular cultures and of their differential possibilities of placement and connection in other, variant cultural and social systems.

Community studies seem to escape such distortion arising from artificial abstraction and suspension of data from real process. They do not remove the social and cultural data they encounter from the web of connections, functions, mutual supports, complementary placements, etc., they seem to have in the life of the people of the community undergoing study. They try instead to describe that web, to follow out its strands and stresses, to treat it for itself.

With the growth of community-study effort, indeed, even the common, now widespread functionalism of the modern social sciences has undergone a shift in nature. That shift is also, probably, part of the

changed perspective in social science which has occurred since we began.

There is a difference in the functionalism of traditional sociology and that of those who have used the community study method. The difference is subtle, and it might easily escape notice, but it is real. The sociology and social anthropology that have come down to us from the thirties (from the founders of that time, Radcliffe-Brown and Malinowski) see the function of a custom or institution as its service to the support of society or, alternately, its contribution to the management of the emotions, sentiments, needs, and support of society's constituent individuals. In the codification of structure-function theory provided by Merton, and widely used in American sociology today, since the concept of function was taken from Radcliffe-Brown and Malinowski's earlier social anthropology, this employment of "function" to mean service to society is explicitly developed and leads at once to an effort, as in biology, to evaluate the eufunctional and dysfunctional quality, or effect, of social and cultural phenomena. For us, however, who derive community study not only from social anthropology (in the above sense) but also from the comparative, classificatory, and evolutionary concerns with sociocultural systems, as wholes and as collections of rites, traits, rules, and institutions whose *form* is to be explained in addition to any function they may have, such concerns rising prominently in continental ethnology and American cultural anthropology (even the nomenclature is different from the British "social anthropology"), "function" means, as it might in mathematics, congruent, configurational, or systemic co-occurrence or emergence. Form and function must be separated, and indeed one form may have several functions, one functional need perhaps have several forms fulfilling it, and the questions community studies ask thus deal more with co-occurrence or emergence (as a systemic product or a historical vectorial resultant among forces) than with eu- and dysfunction.

Community studies proceed from quite different criteria. Even the emphasis upon functional analysis common between those who adhere to traditional sociological thought and those steeped in community study proves, on closer examination, to exhibit wide contrasts. The systemic view, inherent in the latter approach, sees function as interdependence within the context of the whole. Such a view is based on variability in relationships and not upon the contribution or utility of an item of behavior, structure, or value to some other item, although we grant the usefulness of such a view in some instances. For example, if criteria of benefit are the basis for judging some practice or institution, we could then see the justification for using the contrast of function and dysfunction. Our own inclination is to abandon such valued categorizations since they violate the principles of the inductive, natural-history method upon which community study is founded. The contrast is of course not complete, since a function can be both a congruent or resultant covariation and a contributor to or destroyer of something. But the questions are different ones, and the analysis of form and resultance is more complex, and more telling, than that of simple contribution to efficacy of operation. Indeed, it subsumes the other.

THE DIMENSIONS OF COMMUNITY

What we need to do now is to explore the relevance and relationship of the heritage of anthropological thought to community study. In particular, we wish to emphasize that perspective which seeks to explore the relationship between culture and society as it is manifested in the wholeness of community through delineation of the interdependencies of behavior and institution within such wholes. This, then, sets forth the context in which one of us[1] de-

[1] Conrad M. Arensberg, "The Community as Object and as Sample," *American Anthropologist*, LXIII, No. 2, Part I (1961), 241–64; and Arensberg, "The Community-Study Method," *American*

scribed the perspective, the field, and the method of community study. In the brief recapitulation of the substance of this analysis which follows we restate our view of the current status of theory and method in this field.

There are two perspectives from which community may be observed. If one views it as an object or thing, then the questions which are asked will have as their objective the explication of its nature. The answers that one seeks will be those which establish identities, types, functions, and the degree of success with which it meets the individual and collective needs of its inhabitants.

If one asks questions about the community as a field or sample "in which to study something else than the community itself," then the questions will be of a different kind. The criteria which must be satisfied and the other questions for which answers must be gained have as their objective the use of the results of community study for the purposes of social science. These are problems of comparison, variability, and change; of the relationships between parts and wholes; and of the individual and group in their connections and life histories. There is also the need to establish the legitimacy of a procedure which views a particular community as a representative microcosm "of the whole of, a society, culture, civilization, or epoch."

Those who view community as an object have been the most critical of the community-study approach. They ask: How does one determine that a community may serve as representative for a culture or society? How may you bound a settlement to insure completeness? How inclusive of all aspects of behavior and institutions must a community be? What level of cohesiveness must be evident? The answer to the questions of these critics can be gained in large measure if we state the multifactorial elements which a full community encompasses.

First, however, we must preface our answer by drawing attention to the numerous characteristics which animal and human communities share in common, and then to the distinctive and contrasting aspect of symbolically learned and transmitted behavior found only among men. Basic comparability within these two types of community is established by delineating the territorial unit which provides the resources for support of a given population. But there are other parallels which Arensberg summarized as follows: "Human beings, with culture, and animals, without it, equally well divide into communities, establish boundaries, trend toward exclusive memberships; band together for mutual support, defense, and mate choice; establish rhythms of land use, travel, and movement; throw up monuments of one physical sort or another to their coresidential, familial and communal, livings; reuse and rework old settlements and their monuments into new shells for living; or, alternatively bud off new colonial and daughter communities duplicating old ones."[2]

In addition to the distinguishing elements already enumerated, we must add still others. The population unit is no mere aggregate of undifferentiated individuals. It includes members of both sexes and an age range stretching from the newly born to those in the declining period of old age. Within such a range there occurs a differentiation of relationships, such as those of mother to infant, or old to young, which is one form of a hierarchy of status. In a human community this table of organization may be elaborated far beyond a purely biological definition to include possessors of the array of diverse skills which are learned. These are culturally transmitted within the setting of a community which in its range of individual variation is thus the chief repository of behaviors, patterns,

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Journal of Sociology, LX, No. 2 (1954), 109-24. Reprinted as chaps. i and ii in Conrad M. Arensberg and Solon T. Kimball, *Culture and Community* (New York: Harcourt, Brace & World, 1965).

[2] Arensberg, "The Community as Object and as Sample," *op. cit.* (see n. 1 above), p. 250.

and institutions. Each type of community possesses its distinctive social differentiations and exhibits a division of labor which must be perpetuated if it is to survive. Arensberg has formulated it thus: "The community is the minimal unit table of organization of the personnel who can carry and transmit this culture. It is the minimal unit realizing the categories and offices of their social organization. It is the minimal group capable of re-enacting in the present and transmitting to the future the cultural and institutional inventory of their distinctive and historic tradition. And *from* it, *in* it, the child learns, from peers and the street as well as from parents and teachers, the lore of his people and what must be learned to become one of them."[3]

The dimensions of community we have enumerated thus far include spatial (territorial), ecological (resources used), population (personnel), social (forms of grouping), and cultural (learned behavior and its transmission). To these we must add one more—the temporal dimension. Communities, animal and human, exist over time. Each one of the several stages of an individual's life-span is represented in its membership at any one point of time. But the community extends backward and forward in time beyond the life history of any one individual. The biological expression of this transgenerational quality is generalized in the concept "gene pool." Its cultural expression is contained within the knowledge and behavior generalized in customs, institutions, and values. Temporal succession, however, presents no smooth, unvarying pattern. The rhythms and periodicities of individual or group move within recurring cycles of altering relationships and the processes of natural history. Man, although unable to fully escape from the effect of diurnal and seasonal change and of the life cycle of the individual, has nevertheless created a ritualized temporality, in his *rites de passage,* and in his *rites of intensification,* in short, in the calendars of his religious and social activity.

[3] *Ibid.*, p. 253.

These, then, are the dimensions of community. Their application permits us to answer the demands posed by sampling theory that require of a community as a sample of a society that it be a group or unit of that society which is itself representative, complete, inclusive, and cohesive. We contend that any community in any society, properly chosen with due regard to these points of its character, meets sampling requirements in social science.

COMMUNITY-STUDY METHOD

The objectives of any study and the operations which are utilized in gathering and analyzing data, however, have significant consequences for the results which emerge. It is for this reason that we must now turn to an examination of the concepts and methods which guide those who engage in community study. Since many of these are also utilized in other areas of social science research, we shall emphasize only those of greatest import.

The origins of community-study method can be found in the use, by anthropologists, of the natural-history approach to small and relatively simple tribal groupings. The isolated setting and the conditions of living permitted and forced the immersion of the researcher into the life of his group. His data were recorded from the day-to-day activities, the less frequent ceremonials, the verbally related accounts of past happenings of men and the gods, the observed techniques of tool making and use, the forms and membership of human groupings in the variety of domestic and field co-operative labors, and the practices associated with teaching and learning.

The raw data, won by observation and exploration, served no purpose beyond that of simple fact, however, until they became transformed through analysis and interpretation. From this ordering emerged the descriptions of groups, their activities and beliefs, and their relationships to the phys-

ical and social settings around them. Perhaps it was not inevitable, but the circumstances under which such field work was conducted led to the recognition of the value of describing the "whole" and, eventually, as the perspective of anthropology shifted, of seeking explanation of functions and interdependencies rather than trait distributions alone. Although the researcher may have carried hypotheses into the field with him, their substantiation was established or disproved by the forced referral of his ideas back to the facts of situation or behavior which he encountered.

The transference of this holistic method from the study of "primitive," that is, small tribal societies, to the examination of "civilized" communities in complex societies brought in its wake some new additions in technique and concept, oftentimes borrowed from other social sciences, sometimes freshly invented. From this older tradition community study has retained, as a basic goal, the search for those principles of behavior and social structure which allow cross-cultural comparison and the formulation of general statements about culture and society, rather than emphasis upon the nature of the object itself. In this sense the community becomes the setting in which the exploration proceeds; the method encompasses those devices, conceptual and technical, which assist discovery, verification, and comparison. As Arensberg phrased it, "Community study is that method in which a problem (or problems) in the nature, interconnections, or dynamics of behavior and attitudes is explored against or within the surround of other behavior and attitudes of the individuals making up the life of a particular community. It is a naturalistic, comparative method. It is aimed at studying behavior and attitudes as objects *in vivo* through observation rather than *in vitro* through isolation and abstraction or in a model through experiment."[4]

Perhaps some additional elaboration at this time on the construction and use of models would assist in clarifying community-study method and in contrasting it with other approaches. Ever since social scientists discovered and borrowed from mathematics and the physical sciences the concept of "models" there has existed an assumption, among some of them at least, that the use of such models has increased the scientific rigor and validity of their operation. (Kurt Lewin's transfer of field theory from physics to the study of groups can serve as an early example.) In those instances, however, where no clear distinction was made between the research design and the subject of research, and where the model was intended to represent, among other things, a hypothetical representation of that which was to be investigated, serious questions have been raised about the worth of such an innovation and the validity of the assumptions. There is no need for such doubts to arise in the case of the community-study method, as a real community and any model of social structure erected to describe it are always immediately separable. The misinterpretation which can result from the failure to keep these two things sharply separated can lead to dubious conclusions indeed, as exemplified in the Stein interpretations of American communities, to which we shall come shortly.[5]

For those who are partial to formal models, there is no reason why they should not think of the results of community studies as models of communities within their cultures and societies. Community-study method might be to them, then, the construction of specific, successive models for structuring local social relationships and local social and behavioral facts in the way best suited to depicting their real-life occurrences and interconnections. But those who prefer to start with either implicit or ex-

[4] Arensberg, "The Community-Study Method," *op. cit.* (see n. 1 above), p. 110.

[5] Maurice R. Stein, *The Eclipse of Community: An Interpretation of American Studies* (Princeton, N.J.: Princeton University Press, 1960).

plicit models must beware of injecting a priori assumptions about the nature of their object of study, that is, the real life of the people in their community. They must try many models for best fit and best depiction; they must ride no hobby horses; they must hold free to try first this and then that identification of elements and arrangement of parts; structure this way and that way as the data, not their received concepts or favorite methods used elsewhere, require. For example, "power structure," "stratification," "ecological system," "social network," etc., are useful, modern concepts in social science, but to treat them as universal phenomena of all communities and societies, to seek their specific expression in each community used for study, or to generalize them without test from one to another, is to prejudge the comparative data before they have been gathered. Similarly as is so often true today, if all-too-plausible but simple contrasts are proposed, such as "primitive" and "complex," "rural" and "urban," or "closed" and "open," without test for their relevance to the real community before one, then, too, data are distorted before they are won and nature forced into reflecting art and theory, not reality.

If we can construct a living, moving model, both continuant and changing, of this life and structure of the real community of persons, then our imagery will approximate the reality. Certainly the creation of any a priori substantive model, deduced from hypothetical convictions about the nature of society, or culture, or *all* human groupings outside this one, deeply violates the empirical spirit of science and the canons of community-study method. Anthropology has let no received theory of human nature stand untested; certainly community-study method, even in complex society, can let no theory of social structure, of social and cultural change, or of institutional function overrule what it sees and what it hears in the life before it.

THEORY AND INTERPRETATION

Knowledge of the structure, function, and process of community and communities is won in quite other ways than deductive formulation of theoretical necessities. It comes from the laborious collection of the empirical facts in situ and from subsequent analysis of the regularities, similarities, and concurrences among them. It requires an inductive approach for synthesizing social structure which contrasts with the logico-deductive procedure followed today in so much of social science.

As illustration of the contrast between such procedures and an approach which derives theory directly from the data, we propose to comment upon the monograph by Stein, previously mentioned, and to the summation by Frankenberg, entitled *Communities in Britain,* in which he makes eclectic use of various theories in his interpretation of several community studies.[6]

In his *The Eclipse of Community,* Stein draws upon studies examining numerous aspects and segments of American life to give us a provocative, sociological analysis of the direction in which American society is moving. It is not a treatise about community-study method, nor is it a comparative analysis in the ethnographic tradition. Its substantive purpose is to "develop a theory of American community life" which is dependent upon "the development of a framework for relating disparate community studies to each other." Our interest centers upon his theoretical model, and we shall examine it as an example of the effect which such a definition exerts upon the selection of data and the conclusions.

Stein theorizes that the processes (also labeled social forces or pressures) of urbanization, industrialization, and bureaucracy are shaping American community life. In this view he finds himself in accord with "general sociological theorists like Marx,

[6] Ronald Frankenberg, *Communities in Britain: Social Life in Town and Country* (Hammondsworth, Middlesex, England: Penguin Books, Ltd., 1966).

Weber, Durkheim, and others." His model of community is provided in the "field-theoretical" postulate of Kurt Lewin, in which community is seen as "an organized system standing in a determinate relationship to its environment." Change is seen as the impact of forces on the system from which there emerges an alternating sequence of disorganization and reorganization. (Shades of Hegel!) "The conceptual model rests on the examination of change and assumes that urbanization, industrialization, and bureaucratization, as defined earlier, plot most of the key dimensions. In field-theoretical terms, the problem today is as much one of identifying the contemporary stages of urbanization, industrialization, and bureaucratization through their manifestations as environmental pressures as it is of discovering the new patterns of community social structure that they call forth."[7]

The "case" material utilized by Stein included the sociological studies of Chicago under the inspiration of Robert Park to show urbanization;[8] the Robert and Helen Lynd report of *Middletown* (Muncie, Indiana)[9] to illustrate industrialization; and the Warner and Low study of the factory system in *Yankee City* (Newburyport, Massachusetts)[10] to demonstrate bureaucratization. As supplementary and supporting evidence, he examines another half-dozen studies, ranging from the slums and Bohemia to the suburbs. In his interpretation of social processes we encounter an unformulated but older theme appearing under a new guise—the assumption of implicit conflict between the individual and his society. This is exemplified in the impelling status quest accompanied by identity diffusion which afflicts the lives of suburban dwellers. Stein acknowledges that his views about the individual reflect the influence of Sigmund Freud and of Paul Radin, the latter holding to an individualist ideology amounting almost to anarchy. With the addition of a purely individualistic and psychological perspective, Stein provides a theoretically counterpoised closure in the symmetry of immutable historical processes at one extreme and individual life drama at the other.

Summaries such as this one can never fully catch the author's intricacies of thought and argument and must inevitably carry some distortion. They do lay the ground, however, for contrast with other views and thus can lead to further sharpening of intellectual apprehension. We think it helpful, however, if we make the general observation about the danger of confusing the process of change and its consequences. An elephant may be seen as a species representing a certain stage in the evolution of animals, but we can hardly explain the process of emergence as elephantizing. The generic process is found instead in natural selection. We think that the use of urbanization and other such terms as explanatory processes suffer from the same disability. Urbanization, industrialization, and bureaucratization should be viewed as consequences, not as processes. We shall offer further comment about Stein's approach in conjunction with the analysis of Frankenberg's analysis to which we now turn.

The theoretical framework which Frankenberg utilizes to compare the results of several studies made on communities in Great Britain should be counted as a commendable effort to create an interpretive model which encompasses a wide diversity of community types. (That he has chosen to select as one of his examples our own study of Irish countrymen does us honor, although its inclusion was not central to his theoretical concern.) Frankenberg calls himself a model-building sociologist. As such, community studies provide him with the substantive data to verify and explicate

[7] Stein, *op. cit.* (see n. 5 above), p. 107.

[8] Robert E. Park, E. W. Burgess, and R. D. McKenzie (eds.), *The City* (Chicago: University of Chicago Press, 1925).

[9] Robert and Helen Merrell Lynd, *Middletown* (New York: Harcourt, Brace & World, 1929).

[10] W. Lloyd Warner, J. O. Low, Paul S. Lunt, Leo Srole, *Yankee City* (New Haven, Conn.: Yale University Press, 1963).

social theory. His major concern is the construction of a morphological continuum on which the rural community stands at one end and urban society at the other. Each of the communities he summarizes may be placed at some point along the continuum as it approximates either the rural or urban model. Although he lists twenty-five themes in his model, for each of which he offers contrasting distinctions between rural and urban, the important differences are covered in concepts of community, role, network, class and status group, social conflict, and social redundancy. This eclectic matrix is drawn from such diverse sources as Merton, Barnes, Marx, Weber, Durkheim, and communication theorists.

The main substance of his argument can be presented quickly. At one extreme we have the face-to-face intimacy of rural communities, and at the other end of the continuum we find urban alienation and anomie. In such a theoretical construction of urban life we encounter once again the valued implicit assumption of separation and conflict between the individual and society. In rural areas, roles are few in number but possess a fluidity which permits a varied pattern; there are many interlinkages and connections through others in the social network; the fruits of production remain primarily in the hands of the producers; class and status differentiations are minimal, and status is ascribed; and the language of communication is redundant. In contrast, roles in the urban world are many but formal; the network of relations tends to be direct and bureaucratic; workers are alienated from the products of their labors; class distinctions and conflict appear, and status is achieved; and the language of behavior tends to become a code.

These brief summaries of Stein and Frankenberg provide a contrast between the perspective, theory, and method, which they represent, and our own. The immediately apparent distinction is contained in their separation of the method of community study and the data of community from theory derived from within the data, and in their treatment of both as things which orbit quite independently of each other and without any necessary connection to the method of study. There are other differences. Frankenberg's continuum may serve some heuristic, definitional purpose in helping to clarify differences in social forms, but such a priori formulations can produce distorted categories, and they contribute little to understanding the process of social change. We are not opposed to creating typologies which permit comparison on the basis of process, structure, or pattern, but we do not believe that comparison by polar opposition or dichotomization contributes very much to advance scientific understanding. Our criticism of Stein's designation of industrialization, bureaucratization, and urbanization as processes is based upon somewhat the same premises. We grant that these terms may be made operational, but when they are used primarily as labels for supposed trends in community patterns we then suggest that the effort to identify variations and to model differences for themselves has been abandoned in favor of an all-too-easy dichotomization and polarization. We suspect these authors have given up natural-history classification—which utilizes the internal data for its taxonomy—and the pain and effort of structural comparison based upon description of real specimens, for premature scalar quantification. When Frankenberg offers us a continuum of two poles, with forced intermediate gradations, the beguiling ease of scalar quantification has taken over. No other model for presenting the relationships over other possible, better models of the connections the data may show has been presented. The hope of simple correlation is so strong that choice of model is not free, fit of various models never attempted, and a procrustean bed has been forced upon the still uncovered facts.

Although further analysis of the differences which separate our approach from that of others would be illuminating, we wish to draw immediate attention to only one additional aspect, namely, the perspec-

tive from which the individual and his interactions with others is examined. Those who utilize role theory, as does Frankenberg, work with such concepts as role behavior, role expectation, role-other, role-set, etc., as if these constituted the attributes associated with an assumed set of fixed positions such as one finds in a family, school, or other relatively stable institution. It seems to us that the individual, in such an approach, is either ignored entirely or becomes submerged as part of a position. We also believe that those who see the structure of society as consisting of sets of linked roles in interaction cannot possibly develop principles which explain the processes associated with change, since role is not an empirical unit of observation.

The approach we favor is one which recognizes the intimate connection between the individual and the system (or systems) in which he participates with others but which also counts individual or system as separate focuses of reference in analysis. Basic data are always derived from observation of individuals in interaction with each other. We follow Radcliffe-Brown in considering each interpersonal event involving two persons as a reciprocal. Each individual's participation with others may be examined and categorized, and his "social personality" is the expression of his participation in the various positions available. For example, individual *A*, who acts as father in one relationship, appears as son in another, as brother in another, as landlord in another, etc. Each relationship is viewed as reciprocal and in its specification, such as father-son, carries a cultural definition of appropriate behavior which varies according to the situation. Data derived from observations from this perspective permit us to make statements about the individual, elicit a positional structure, and describe cultural practices. Only the referential fluidity which reciprocal analysis injects, however, permits a less static analysis than that which comes from role theory.

When we utilize the concept of reciprocals in interaction analysis, about which we shall have a great deal to say shortly, then our data permit us to specify the changes in both individuals and their relationships. For example, observation will establish that there are quantitative as well as behavioral differences in the relationship of an Irish farm father who directs a still immature adolescent son from that of a father to a son to whom the family land has been deeded and who is now its adult representative. When one takes into account such dimensions as age, etc., it can be seen that variation occurs in the reciprocal and hence function even though the positional definition of father-son still obtains. When you combine referential fluidity (any position or reciprocal may be chosen as the point from which the entire system is examined) and dimensional variability (time, space, personnel, etc.), then your data will yield explanations of change. The definitional basis of role theory does not seem so suited.

EXTENSIONS AND DEVELOPMENTS

In one sense, the methodological advances which have accrued with the proliferation of community studies represent elaborations and refinements inherent in the original approach. As we would expect, greater sophistication has accompanied their use and wider application. Furthermore, the self-conscious examination of field procedures and subsequent analysis has brought many of the underlying assumptions into conscious awareness and heightened the focus of theoretical considerations. In particular, the relationships between research method and substantive findings have become clear. In this area we acknowledge our debt to Bridgman for his formulation of the principle of operationalism. His insight gave us understanding of how the use of the tools of science affected the results obtained from any subject of study.

In another sense, however, there have been some major innovations, and there are three of these to which we wish to direct

special attention. Their significance will be more deeply appreciated, we believe, if first we attempt to reconstruct a bit of the theoretical climate which prevailed when we were originally initiated into community study.

One of the objectives that time was the attempt to look beyond the particular individual or trait of culture as the basis for explaining social and psychological phenomena. Explanation was believed better to be achieved by ascertaining the functional connections between individual behaviors and items of culture or social institutional rules. As subscribers to this view, we were loyal adherents to the ideas of Durkheim, Radcliffe-Brown, and Malinowski. Linked to the search for function was the need to establish social categories and the specification of the associated cultural behavior. This taxonomic ordering is a first step in all scientific procedure. It gives us a framework or structure which helps to clarify differences and similarities and permits the placing of new elements in their proper niches. The delineation of a system of social class in the *Yankee City* study was one of the products of these early efforts. Once it had been formulated, one could ask about the manner in which social class was expressed in other parts of the community, such as institutions, or questions could be posed about the function of one social class in relation to another.

In retrospect, this ordering of the social environment was a necessary first step, but it was also a static one. "Social system" or "social structure" then referred to an arrangement of categories and their functions. Functional interdependence referred to the contributory affect or welfare of the parts to each other. There was no failure to recognize that the present was unlike the past, or that future changes might be expected to occur; it was only that the conceptual devices then available were inadequate to the task of specifying processes of change. Since then we have made considerable progress in overcoming these difficulties in three separate but related analytical approaches. These we call system analysis, interaction analysis, and event analysis. Their use permits us to pose new types of questions and to begin to describe the dynamic aspects of community with greater precision. Although our own contributions to each of these areas have already been reported elsewhere, we shall offer a brief résumé of each one at this time.

System analysis assumes that the parts and relationships of each phenomenon are variable aspects of an identified whole. In the study of any group the first task is to decide what these basic variables are. Since community study examines groups in vivo empirical observation quickly establishes that individuals engage in repetitive activities of a solitary or co-operative nature and that they hold certain beliefs about these activities. Furthermore, we can establish that these activities exhibit regularities in time and space. Hence, the three initial classes of phenomena which we identify within a system include interaction between individuals from which we abstract structure; the behavior which accompanies such interaction which in its standardized form we label custom; and the judgmental explanations which we call values. "Thus a system is seen as composed of a number of *individuals* united by *ordered relations*, existing in *time and space*, each individual responding in a *customary* manner towards others within the system (or outsiders or events which impinge on the system), the nature of the *interaction* (ordered relations and customs) being an expression of the values affected by the situation or event which stimulated the response."[11]

The question may properly be asked if this formulation is equally applicable to the community as a whole as well as to its parts. Can we explicate the interdependencies of all the varied behavior in institutions and groups with the same facility that we analyze a school, a family, or the behavior of

[11] Solon T. Kimball and Marion Pearsall, *The Talladega Story: A Study in Community Process* (University: University of Alabama Press, 1954), p. xviii.

young men who assemble nightly on some street corner? We believe that system analysis permits this since the problem is not one of size or complexity. For example, if we think of a community as a macrosystem and a family as a microsystem, what are the specific variables that are common to each? These are environment (the natural and technologically modified setting), population (individuals), social organization (categorical and relational groups), customs (forms of behavior), and values (symbolic representations). It should be noted that each of these variables may also be examined systematically. Thus population may be treated demographically, the individual as a personality, values as logics, etc. In fact, interaction analysis and event analysis represent further elaboration of the principles of system analysis as applied to human behavior.

Interaction analysis was born of the urgency to develop techniques which could measure the realities of social behavior—the order of actions among individuals—and from such a base to construct the regularities and processes of change within institutions. Its discoverers, Chapple and Arensberg, have reported their scheme in its full content elsewhere.[12]

The condensed version which we shall present in the next few paragraphs is included primarily to give some taste of its nature to those who have not yet been introduced to this approach. Interaction, by the simplest definition, is an observed sequence of action. We can see that in the encounter between two individuals, one of them will initiate to the other, who in turn terminates by responding. Defined thus, an event is a time-measured sequence of action on the part of persons acting in a recordable order within each pair. The total of such events observed between any two persons represents the observed relation between them. In this manner we have a simple operational record of human relations. Relationships of status, reciprocity of personal ties and emotional bonds, legal and nonlegal, formal and informal, economic, political, religious, or what one will, even those of antagonism, opposition, and warfare, are all possible of reduction to a quantitative record of observed events.

The structure of the group is reached through the construction of a matrix of relations derived from the operations by which we describe, compare, and generalize such events. One useful empirical model of the group is, thus, the collection of numerical formulas expressing the recorded number of events, orders of action, rates, and durations that characterize each relation between persons. Any relation of the collection is a numerical function of any and every other. The group is a function of its component relations, and they in turn to their total which describes the group as a record of the historical events of interpersonal activity, contact, communication, and output. No matter what the group is, no matter what the activities of its members may be, or the events that mark the course of its life, it can be compared with any other group in this common analysis.

In this manner, interaction between individuals and the groups they form can be defined uniquely and quantitatively, yet in terms general enough to cover the whole range of human behavior and human institutions. Operationally, thus, a group or an institution is a history of events involving the interactions of real persons, a history summarized in an explicit and unique description, but permitting comparative analysis. By using this method of specification and summation of interpersonal events, we can erect a classification of groups and institutions that is not at all merely a restatement of their normative, teleological, and functional professions or expectations but one that is independent of these attributes and can be checked, correlated, and matched with them independently.

Once the specification of a human group,

[12] Eliot D. Chapple and Conrad M. Arensberg, "Measuring Human Relations: An Introduction to the Study of the Interaction of Individuals," *Genetic Psychology Monographs*, XX, No. 1 (February, 1940).

institution, or community, has been accomplished, several additional steps can follow. One of these is to erect a classification which is derived from the operation of recording and generalizing descriptions of the events of human interpersonal interaction. Within this classification of the structure of relations, a structure which includes patterns and sequential regularities, one then seeks for a taxonomy or a processual discovery of the kinds, and the connections among the kinds, of social action. The specification of the wholeness of the connectedness between and among groups viewed from the perspective of sequential process gives up a "model" of a community derived from real life observation of individuals in interaction.

Some mention should be made of those who have applied this approach to their research and analysis. The use of the order of events of interpersonal action in the industrial factory to define, describe, and state the processual interconnections of occurrences in industrial relations has been achieved by Arensberg, Arensberg and Tootell, Horsfall and Arensberg, William Walker and Richardson, and Robert Guest in isolating and quantifying formal managerial line-authority, formal flow-of-work, formal in-plant, "up-the-line" reporting, union-management grievance procedure, informal worker-worker and engineer-worker staff-line relationships, and formulating the dynamics of their determinacy of productivity, strikes, morale, and solidarity. Outside the factory, in non-industrial anthropology and sociology, a similar use of the concepts of order-of-action within events among identified actors in time sequences was used by William F. Whyte, semi-explicitly, in establishing the nature and the function of the street gangs of *Street-Corner Society*,[13] and by Douglas Oliver, in isolating the social control and the societal integration performed on Bougainville by the *muni* or pig-feast competitors of the Melanesian villages.[14] Still further use of the comparison and structuration of differential orders of action was used by Arensberg in ordering and generalizing the data on comparative, ethnographically diverse primitive economic systems reported in Polanyi, Arensberg, and Pearson's *Trade and Markets in the Early Empires*.[15]

In some of the examples cited above the use of events as the basis for analysis is clearly evident, and it is legitimate to ask if interaction analysis and event analysis are not really the same thing. The emergence of event analysis to conscious formulation came somewhat later and clearly reflects the influence of the former. It seems to us, however, that at this juncture in the development of our science a separation between them is fully justified. There is a difference between specifying the hierarchies of interaction built from observation of pair-events and set-events within them and the naturalistic description of the events-of-action and results-of-action of sequential events in the life of either simple or complex groups and of their interconnections, recurrences, and rhythms. The latter is the subject matter of event analysis. Furthermore, event analysis gives greater emphasis to the conditions within which happenings occur and to the natural history cycle.

Event analysis subsumes all that is inherent in both system analysis and interaction analysis. In fact, it might be regarded as a joining of these two but with a somewhat different perspective and emphasis. Its data are the activities of individuals in assemblage and dispersal in sequence and place. It elicits from such data the structure and pattern of institutions within the dimensions of time and space and in similar fash-

[13] William F. Whyte, *Street-Corner Society: The Social Structure of an Italian Slum* (Chicago: University of Chicago Press, 1955).

[14] Douglas L. Oliver, *A Solomon Island Society: Kinship and Leadership among the Siuai of Bougainville* (Cambridge, Mass.: Harvard University Press, 1955).

[15] Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson, *Trade and Markets in the Early Empires* (New York: Macmillan [Free Press], 1957).

ion traces out institutional interconnections. The natural history of individual, group, or community is observed in the context of changing conditions.

In fact, the significant questions become those associated with transformation—the socialization and enculturation of the individual; the reshaping of institution or pattern; and the modification of values. The creation of what is meant by community through examination of events leads one to see community as process based on the activities of individuals in events rather than as a thing of set structure and pattern.

The concept of event analysis was an after-the-fact formulation. In this regard it resembles other discoveries made by those who follow the inductive, natural-history method of science, a procedure dramatically exemplified in Darwin's development of the theory of evolution. Some explanation of the circumstances which gave birth to the idea may be helpful. For a two-year period in the early 1950's a team of researchers from the University of Alabama worked alongside a group of citizens in a small Alabama town as the latter organized and carried to completion a health inventory which has been reported in *The Talladega Story*.[16] The researchers hoped to develop an understanding of community process from observing who was involved with whom in what activities as well as the sequence of action and consequences. The nature of the problem shaped the research strategy in a direction other than that associated with a traditional community study. Emphasis was on recording the actual happenings within the numerous events which accompanied the activity. Only as we were working through our materials after the completion of the study did we realize how our research methods had yielded a new perspective of community. It was then that we learned how fully the course of events we had recorded had been shaped by a pre-existing structure of relationships, patterns of behavior, and values. In effect, through watching an event of near community-wide spread, we had not only been able to abstract some generalizations about community process but had gained a perspective of community structure that might not have been otherwise possible. A full exposition of the method has yet to be made although at the time it was reported upon briefly.[17]

As so often happens, when the literature was re-examined to discover others who had used events as their basis of analysis several instances were uncovered. Many anthropologists have adduced exemplifying incidents to illustrate some point, but this practice does not qualify as event analysis. In Van Gennep's study of *rites de passage*, however, he examined events that appeared with rhythmic regularity in the life cycle of the individual. His important discovery was not the near universality of such rites, a fact of great significance, but that from the analysis of their internal structure he could extract a *schema* which showed the processes associated with sequential transformations. Van Gennep was quite explicit that his discovery did not arise from any a priori formulation but was yielded by the data themselves from application of the comparative method of ethnography.

A few British social anthropologists have used a case history or dramatic incident to provide the data for their analyses. There appears to be, however, a significant difference between what we mean by "event analysis" and this other approach, a difference which resides primarily in theoretical perspective. Frankenberg offers us a brief account of this development in *The Social Anthropology of Complex Societies*, edited by Michael Banton.[18]

There is still much about the use and potentialities of event analysis that we do

[16] Kimball and Pearsall, *op. cit.* (see n. 11 above).

[17] Solon T. Kimball and Marion Pearsall, "Event Analysis as an Approach to Community Study," *Social Forces*, XXXIV (1955), 58–63.

[18] Michael Banton (ed.), *The Social Anthropology of Complex Societies* (London: Tavistock Publications, 1966).

not know. Until we have completed several community studies in which this method is utilized, we cannot test some of its possibilities, especially those which explore comparative analysis. "Models" of communities drawn from within the data, and including both temporal and spatial dimensions, should yield understanding of both structure and process and the relationships between them in a fashion that has yet to be realized. Once this step has been taken it seems probable that social science will have advanced still further in understanding the organizational forms of animal life and of human culture and of their congruencies.

These three innovations then—system analysis, interaction analysis, and event analysis—stand as methodological tools which have been explicitly formulated since our own first introduction to community study. They give greater precision in observation and analysis than was previously possible. Furthermore, they permit construction of theories of human organization and behavior from connections discovered within the data themselves rather than depending upon a priori formulations, which may have been borrowed from other sources, to explain the structure and function of groups and community.

UNIVERSITY OF FLORIDA
AND
COLUMBIA UNIVERSITY

Change, Growth, and Irreversibility

Gösta Carlsson

ABSTRACT

Social change frequently takes the form of growth (or decay) sustained over a long period of time without reversals, or with only a few minor ones. This is true also within the domain of change through individual or small-unit action, here called "discretionary change." The problem of irreversibility can be attacked through a dynamic theory, where "dynamic" means time-regarding. The key concepts used in the analysis are conditional growth, delayed response (or distributed lags), and feedback. Some of the more general consequences for sociological macroanalysis are discussed in the concluding sections of the paper.

THE DYNAMICS OF DISCRETIONARY CHANGE

This paper will deal with social change through discretionary behavior, that is, change brought about by shifts in behavior standards and in attitudes within a population under conditions of relative freedom in the everyday sense (as contrasted to change through collective decision). Discretionary change rests on large numbers of acting individuals, families, or similar small units deciding one way or another rather than submitting to the will of their rulers or elected government.

Discretionary change naturally calls for explanation on the microlevel, but in the following pages the macrolevel of aggregate change will receive most of the attention. The distinction between the two levels will be based on the manner in which data are handled and analyzed rather than on the occurrence or non-occurrence in general of units at a certain size in these data. Macrotheory as here understood treats either phenomena which cannot be distributed among individuals or similar small units, or if they can they appear as average or aggregate values for the entire society or for relatively self-sufficient local communities. Certain institutional conditions and changes belong to the first category; the fertility of married couples, or political attitudes, belong to the second. In the latter case a quality or characteristic is studied which can be ascribed to individuals or families with the attendant problem of explaining individual variation by means of a suitable microtheory. But macrotheory relates average or aggregate national or community values of fertility or political climate to other such averages or macrofacts, or to time.

It is a characteristic of aggregate change that an appreciable span of time is usually required before it has run its full course, and this time lapse and its variation need to be understood. Indeed, it is hard to see how any theory that fails to attack this problem could be called "dynamic." Yet there is a strange neglect of time in current theory beyond the trivial recognition that change takes place in time and that there is a before and after or temporal sequence. Time matters in a much more pervasive manner; there are questions of rate of change and degrees of inertia (or lags) and their effects. Timeless shifts between equilibrium states do not constitute dynamic theory.

A deeper concern with time is, of course, not entirely lacking in sociological literature. In the special field of technological and other innovations,[1] the importance of

[1] E. M. Rogers, *The Diffusion of Innovations* (New York: Free Press, 1962), esp. chap. iv.

the speed parameter is recognized; in general sociological theory, authors as different in outlook as Sorokin[2] and Ogburn[3] have paid serious attention to it. Nor should one forget MacIver's strong interest in social trends as manifestations of change and as instances of social causation. Indeed, many of his examples were taken from the area of discretionary change as defined above, such as urbanization, the decline of the birth rate, the decay of traditional mores, or the spread of a new religion, and similar "slowly maturing processes."[4]

None of the sources cited above is recent, and today sociologists appear to be less than diligent in their pursuit of time and trend studies. However, their interest in time in its full dynamic character seems to grow as they come under the shadow of economic theory and research.[5]

If one strikes out in this direction, several applications of some importance come to mind. Macrochange may take the form of oscillations without apparent trend, or there may be growth (or decline) which persists for a long time, with or without short-term oscillations around the trend. As a special case, we may have a steady state in which there is no macrochange though there may be compensating streams of individual change. Accordingly, we have three main divisions: oscillation theory (often called "theory of cycles"), theory of growth or irreversible change, and steady-state theory. Having dealt elsewhere with oscillations and so-called cycles, the author wishes to examine growth and irreversible change.[6]

It is frequently the case that the value of some macrovariable is steadily increasing (or steadily decreasing) over a considerable stretch of time—long enough to merit attention. There may be setbacks, but they are minor and transitory judged against the scale of the process as a whole. Within this broad classification (and with no pretense at exact forecasting) fall many important historical processes of a long-range nature, though not all may be clear cases of discretionary change. Industrialization and the consequent rise in per capita income belongs here, and so does growth in science and technology. No matter what the upper limit may turn out to be in these two instances, it is certainly a fact that economy and science in some societies have proved capable of sustained growth over a long period; the reversals occurring in this period seem relatively unimportant in historical perspective. The so-called demographic transition in its entirety (or in its subordinate phases, as the fertility decline) illustrates a more obviously bounded process. On a still more limited time scale, other candidates would be mass attitude and behavior changes in the domains of politics, religion, sexual morality, or popular taste, although the evidence is usually restricted to symptoms that happen to come under the purview of official statistics. At the low end are many of the innovation processes exemplified in the acceptance and spread of technological inventions.

In the following, three main models of irreversibility will be sketched; it is not assumed that they exhaust the subject, only that it is worth the trouble looking a little closer at them. They are ***conditional growth***, ***delayed response***, and ***cumulation through feedback***. They will be discussed in this

[2] P. A. Sorokin, *Society, Culture and Personality* (New York: Harper & Bros., 1947); or in Sorokin's four-volume *Social and Cultural Dynamics* (New York: American Book, 1937–40).

[3] W. F. Ogburn, *Social Change* (New York: Viking Press, 1950), esp parts III and IV.

[4] R. M. MacIver, *Social Causation* (Boston: Ginn & Co., 1942), p. 191.

[5] This seems to be the case with W. E. Moore, *Man, Time and Society* (New York: John Wiley & Sons, 1963). A philosophical concern with time also dominates strongly in G. Gurvitch, *The Spectrum of Social Time* (Dordrecht, Holland: Reidel Publishing Co., 1964); and in P. A. Sorokin, *Sociocultural Causality, Space, Time* (Durham, N.C.: Duke University Press 1943), chap. iv.

[6] G. Carlsson, "Response Inertia and Cycles: A Study in Macro-Dynamics," *Acta Sociologica* (in press). Although the author has previously touched on irreversibility, he is indebted to Stevan Dedijer of the Research Policy Institute at the University of Lund for renewing his interest in the problem.

order, without too much elaboration of technical details.

CONDITIONAL GROWTH

Sociologists bent on macrotheory soon run into a difficulty met in other areas but felt with peculiar strength here: an abundance of possible solutions among which the data permit no choice.[7] The method of conditional growth is a way out of this impasse. Irreversible change could obviously be a response to a force likewise increasing (or decreasing) irreversibly, for the same period of time. This possibility remains purely hypothetical until a way is found to assess the force and its variation which is independent of the response series to be explained. Microtheory, that is to say, generalizations about the connection between the behavior studied and factors like income, social class, age, and so on, may provide the missing element. Income-specific, class-specific, or age-specific response rates are determined, and these are combined with the known (or predicted) income distribution, age distribution, etc., of the entire society at different points of time, and the expected aggregate change is computed. The calculus is a variant of the well-known method of standardization (often indirect), and its fine points need not be set forth here. One could also say that the solution is a reductionist one: macrochange is explained or predicted on the basis of microtheory, and "conditional" should be taken in this specific sense.

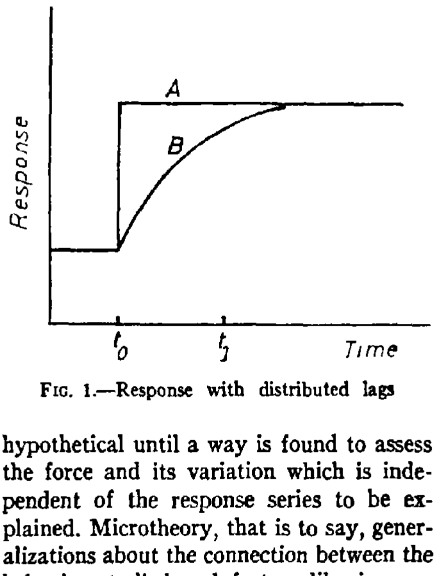


FIG. 1.—Response with distributed lags

There is, needless to say, no guarantee that actual macrochange will conform to the expectation thus derived; in general it will not. This can be the result of the use of imperfect measures,[8] or the neglect of vital factors, but there are also other possibilities. It should be stressed that the results are relative to the set of structural or demographic facts taken into the calculus, and this set will have to be precisely and rather narrowly defined. Should it be extended to cover something like "immediate psychological readiness to act," the result will be vacuous; every social change will be one of conditional change. The question is, rather, how far variation in a dependent variable (macroresponse) can be explained by pointing to a structural change like the demographic composition of the society. With this proviso one can say that conditional growth supplies a base line or rational criterion for judging speed of change, and indicates whether a simple explanation is adequate or has to be supplemented by other principles. These other principles form the subject of the following sections.

DELAYED RESPONSE

The conditional growth model thus far described assumes immediate response to constraining factors. One reason why the model may fail to account for irreversible change is delay in response. Figure 1 illustrates this effect; curve *A* represents the force ("stimulus pressure") acting on response and *B* the actual response level under conditions of response inertia. After the "jump" at t_0, the stimulus pressure in the example remains constant throughout the

[7] Cf. A. Campbell, P. E. Converse, W. E. Miller, and D. E. Stokes, *Elections and the Political Order* (New York: John Wiley & Sons, 1966), pp. 1–6.

[8] Imperfections of observation, measurement, and classification will weaken cross-sectional relations and lead to underestimates of conditional growth.

period of observation. It should be remarked that moderate oscillations in this pressure will leave the response curve B relatively unaffected when it is far removed from the equilibrium level indicated by A. Only when this gap begins to be closed, say at t_1, will oscillations in stimulus pressure be noticeable as "reversibility" in manifest response. The general result, then, is smoother response with uninterrupted growth sustained for a longer period of time than would be the case if response occurred without delay.

It should be stressed that the conclusions are not dependent on any special mathematical model for the time course of response but only on the assumption that adjustment to the force or stimulus pressure is gradual and takes some time. It will nevertheless be instructive to look at one particular response model according to which the rate of change of response is proportional to the amount of disequilibrium, that is to say, the gap between the response level and the level indicated by the stimulus pressure. Let Y_t be the response level at time t, ΔY its increment (or decrement) during a short period of time starting at t, and S_t the level corresponding to the stimulus pressure prevailing at t if response were instantaneous, or, put differently, the level response will eventually reach, given sufficient time, if the stimulus pressure remains constant. We then have

$$\Delta Y = k(S_t - Y_t) \qquad k < 1 \,. \quad (1)$$

In this equation the parameter k expresses the speed of the adjustment process: the lower the value of k, the slower the process, the stronger the inertia. The graph of this response or lag function will be of the shape illustrated by B in Figure 1; with a constant stimulus pressure, response will change fast in the beginning and slow down gradually.[9]

[9] This case is sometimes referred to as "simple catalytic growth"; cf. H. Muench, *Catalytic Models in Epidemiology* (Cambridge, Mass.: Harvard University Press, 1959).

Guided by one's theoretical notions, equation (1) can easily be developed into either of two equally valid expressions showing current response as a function of preceding levels of stimulus pressure and/or response levels. The first of these equations embodies a view of history as a Markov series; response at time t is determined by the response and the stimulus pressure levels at time $t - 1$; once these two magnitudes have been taken into the reckoning, there is no need to go further back in the history of the system.

$$Y_t = (1-k)\,Y_{t-1} + kS_{t-1} \,. \quad (2)$$

Alternatively, response at t may be seen as the weighted sum of the stimulus levels prevailing at $t-1$, $t-2$, and so on, without any definite limit but with decreasing weights.

$$Y_t = kS_{t-1} + (1-k)\,kS_{t-2} + (1-k)^2 kS_{t-3} + \ldots \quad (3)$$

The first is a systematic, ahistorical causal analysis, while the second version exhibits trends as products of a long chain of historical events or changes. There is no contradiction between the two; in equation (2) the previous history of the system has been absorbed by Y_{t-1}.

It will be noticed that the stimulus pressure in this model and its variant forms is allowed to vary in time without any restrictions; hence, it is applicable both to the analyses of trends (and similar irreversible changes) and to short-term oscillations. In principle, "force" or "stimulus pressure" does not have to be interpreted within the narrow confines of "reductionist" conditional growth, although the latter offers the best hope of empirical development.

Altogether this is an attractively simple model of macrochange and of social trends reflecting discretionary behavior; its validity will have to be settled by appeal to observational data which largely remain to be collected. It should be added that delayed response, as set forth above, corre-

sponds to *distributed lags*,[10] as used in modern economic theory, rather than the lags of Ogburnian theory.

DELAYED RESPONSE: THE EVIDENCE

That data on social change often convey an impression of smooth, gradual response to some stimulus, with considerable lags, has already been pointed out. But the evidence is inconclusive and leaves the door open to more than one interpretation. Now, the real issue is one of quantity—the amount, rather than the mere presence or absence of delay. It would be very surprising if response were instantaneous to new social pressures; that there will be at least some inertia appears a more likely assumption. Still, lags might be a minor factor and negligible in the study of social change; the following remarks bear on this possibility.

Apart from growth (or decay) trends and similar cases of irreversible change, the idea of response inertia gets some support from the existence of smooth oscillations in many sociological time series, often, though erroneously, called "cycles." Given some response delay of the character just sketched, this is a predictable result even if the stimulus pressure varies entirely at random.[11] But, again, there is the alternative explanation of little or no response inertia and, instead, an identical pattern of smooth oscillations in the stimulus pressure, say, in the shape of business conditions, employment, prices, and so forth.

There is need for an approach that is independent of the time series which could explain response inertia in the sense of distributed lags. There is, indeed, one particular mechanism through which macroresponse may be delayed considerably, and this is the gradual "freezing" of attitudes and behavior with increasing age. For discretionary change, at any given time only a part of the population is sensitive to new pressures. As a result there will be a variation between different cohorts (generations).[12] There is no doubt that cohort effects are common and important and that they could easily lead to response delays extending over decades. However, no detailed examination of their nature and limits can be undertaken here.

The obvious policy in many instances of irreversible growth is to try some suitable conditional growth model and see how far it can account for the observations. The writer has applied this technique to the rise of the labor parties in Sweden since 1911 as revealed in the election statistics.[13] By means of cross-sectional (survey) data from the 1940's and 1950's, the distribution of political parties among social classes can be estimated; the class-specific proportions supporting labor can then be combined with the class composition of the body of voters as given in the election statistics for each election after 1911. The final product is an expected labor vote which may be compared with the observed vote. It is clear that the model is not suited to explain reversals in the growth trend such as actually occurred a couple of times in Sweden during the period covered by the study (1911–40). At best, the model will give something akin to "the normal vote" of Campbell *et al.*[14] around which there is a scatter due to factors not appearing in the model. It turns out that conditional growth can account for less than half of the growth in labor vote. Faulty data may have led to an underestimate, but even so some addi-

[10] See L. M. Koyck, *Distributed Lags and Investment Analysis* (Amsterdam: North-Holland Publishing Co., 1954), chap ii.

[11] Cf. Carlsson, *op. cit.*

[12] For a more general discussion of cohort analysis in sociological research, see N. B. Ryder, "The Cohort as a Concept in the Study of Social Change," *American Sociological Review*, XXX (December, 1965), 843–61.

[13] G. Carlsson, "Partiförskjutningar som tillväxtprocesser," *Statsvetenskaplig Tidskrift* ("Changes in Party Strength as Growth Process," *Journal of Political Science*) (1963), pp. 172–213, in Swedish.

[14] Campbell *et al.*, *op. cit.*, p. 7. See also chap. ii (by P. E. Converse) on the same subject.

tional principle is needed. Response inertia (distributed lags) of a reasonable magnitude could fill the gap; "reasonable" should here be understood as being in accord with our admittedly crude notions of cohort effects in voting and political attitudes.

FEEDBACK

As far as our present spotty knowledge allows us to tell, conditional growth in the somewhat restricted sense of the previous analysis is often inadequate to account for macrochange. Even with the addition of distributed lags, there is probably a large class of processes where irreversible change will exceed the expectations. In the following pages, feedback will be used as a supplementary principle, although it could also be regarded as an extension of conditional growth and delayed response.

A technique will be used which has previously been employed by Grunberg and Modigliani[15] and by Simon.[16] It is built on the idea that the aggregate behavior (macroresponse) Y_t at time t is a function of the prevailing stimulus pressure S_t and macroresponse Y_{t-1} at time $t-1$.

$$Y_t = f(S_t, Y_{t-1}) . \qquad (4)$$

Again, S_t could be understood as a measure or function of social characteristics, such as income distribution, degree of industrialization, and age distribution. This stimulus pressure S is assumed constant throughout except for purely temporary shocks or deviations. For simplicity, Y is assumed to vary between 0 and 1. Figures 2–4 illustrate, then, the relation between response level at a certain time and the level during the preceding time period (curve F), holding S constant. It should be noted that Figures 2–4, unlike Figure 1, do *not* show a time path.

Figure 2 represents a particularly simple case where macroresponse is a compromise between the level dictated by S and the response level prevailing in the near past

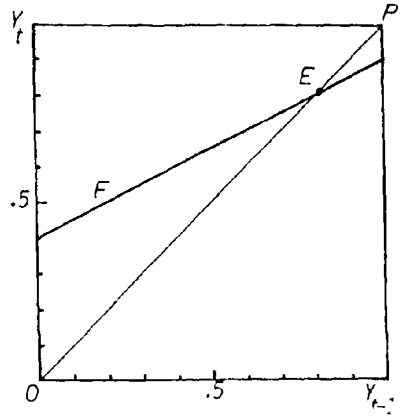


FIG. 2.—Simple delayed response

$(t-1)$, the two variables occurring with equal weight. In the chosen example, S equals 0.8. Hence

$$Y_t = 0.5\,Y_{t-1} + 0.4 . \qquad (5)$$

In the graphs, the straight line OP connects the points at equal distance from the two axes, so that $Y_t = Y_{t-1}$. When F runs above and to the left of OP, continued growth is indicated. This will be arrested as F crosses OP at E and a steady state or equilibrium level is reached. In Figure 2, this will be the response level of 0.8, the value of S. For any given value of Y_{t-1} less than this, the value of Y_t is higher. In fact, the model expressed by equation (5) is an example of the time-consuming adjustment previously illustrated by Figure 1 and by equation (1), as can be seen readily by comparing (1) and (5). The main contribution of the feedback model discussed

[15] M. Grunberg and F. Modigliani, "The Predictability of Social Events," *Journal of Political Economy*, LXII (December, 1954), 465–78.

[16] H. A. Simon, "Bandwagon and Underdog Effects and the Possibility of Election Predictions," *Public Opinion Quarterly*, XVIII (Fall, 1954), 245–53; reprinted in H. A. Simon, *Models of Man* (New York: John Wiley & Sons, 1957), pp. 79–87. The analytic problem is related to the one discussed in J. A. Davis, J. L. Spaeth and C. Huson, "A Technique for Analyzing the Effects of Group Composition," *American Sociological Review* XXVI (April, 1961), 215–25.

so far is to provide a reason for delayed response, namely, the compromise struck in people's behavior between what general socioeconomic conditions push them to do and what their fellowmen are already doing.[17] The interpretation of feedback mechanisms as social imitation and the rise of new social norms through the observation of actual behavior comes naturally to a sociologist; it should not, of course, blind us to other ways of looking at feedback.[18]

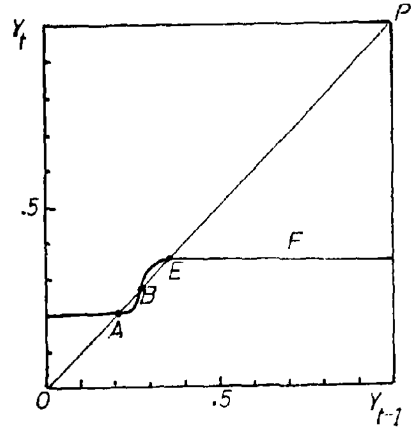


FIG. 3.—Dynamic asymmetry

DYNAMIC ASYMMETRY

There is no reason why the feedback relationship symbolized by the curve *F* should always take the linear shape assumed in Figure 2. A different situation is presented in Figure 3. Again *F* shows the dependence of macroresponse on previous macroresponse. If the process starts from $Y = 0$, a steady state will be reached at *A* $(Y = 0.2)$, *from which point no further* change is likely. Should *Y* for some reason change a little so that the response level undergoes a slight increase or decrease, it will return to *A* (given a constant *S*, or a stimulus pressure returning to *S* after a slight departure). However, should the temporary change in stimulus pressure be considerable enough to move the response level beyond *B*, *it will continue to grow* until a new steady state has been reached at *E*, even if the previous stimulus pressure is restored to *S*. Thus, taking away the equilibrium-disturbing force will ***not*** lead to a reversal of the effect of its introduction, and in this sense we are facing a situation of *dynamic asymmetry*, a species of irreversible change.[19]

CUMULATION AND CRITICAL MASS

Yet another possibility is shown in Figure 4. Here there are two steady states, at 0 and *E*, where *E* is assumed to be on a high response level. Under these conditions there will be no growth from 0 as long as "exogenous" disturbances or short-lived variations in stimulus pressure are insuffi-

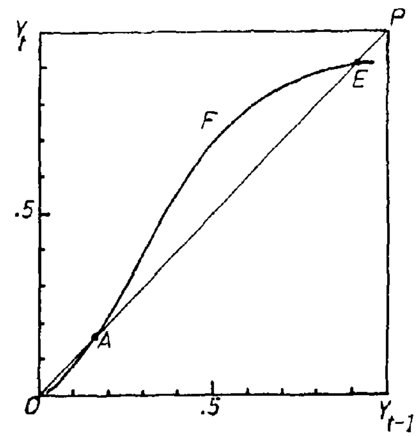


FIG. 4.—Cumulation

[17] This situation is mentioned as the "demonstration effect" in the theory of consumer behavior (cf. J. S. Duesenberry, *Incomes Saving and the Theory of Consumer Behavior* [Cambridge, Mass.: Harvard University Press, 1949], esp. p. 27).

[18] As a behavior becomes more common it is often facilitated through other, adjustive changes; increasing car ownership leads to better roads, more filling stations, and so on. This principle has a wider application than consumer goods.

[19] Koyck, *op. cit.*, pp. 12–16. The terminology used in the present paper differs somewhat from Koyck's.

cient to move response beyond the "critical mass" level of *A*. The latter represents an unstable equilibrium; a slight decrease starts the response shrinking down to 0, a slight increase starts it growing to the high level of *E*. As this case resembles Myrdal's[20] principle of "cumulation" it will be so designated. (If the growth is regarded as undesirable, cumulation will often be called a vicious circle.) The distinguishing mark of cumulation is the span of the growth phase from *A* to *E;* the steady growth from a zero or very low response level to a high level. So-called innovation processes could be of this type; after an early phase of special efforts to introduce the new idea or practice, the outcome will depend on the attainment of the critical mass of *A*. If this has been reached, the diffusion or growth continues; if not, the movement peters out—yet another transient fad.

DETERMINISM AND HISTORY

The main cases of irreversibility here discussed can be used to show the limits of a determinism based on the social or economic factors grouped under *S*. With delayed response, the conclusion will depend largely on the time perspective. In the long run, *S* determines aggregate response; sooner or later a level indicated by *S* will be reached. As the speed parameter of the process has not been specified in the model, a long time might be required; meanwhile, there is no simple unique relation between *S* and response level. Macroresponse could be different in two societies, although the underlying broad social forces (*S*) are identical; or response could be identical and the determining forces different. It would all depend on the history of the societies, or the accidental shocks and preceding variations that history contains. And in real life we shall expect the constraining stimulus pressure *S* to change from time to time so that the societies are constantly "on their way" to an equilibrium they are never likely to reach because it will shift before they get there. Under these circumstance, the theoretical contributions of timeless equilibrium models of social structure and social change will be slight, indeed.[21]

One further point may be noted in passing. To explain a variable through a constant has been called a "logical absurdity."[22] But that is the kind of explanation delayed response is; a constant pressure lies behind a variable level of behavior.

With dynamic asymmetry and cumulation, further restrictions are imposed on the determinism exerted by *S*. In neither case is there a unique response level corresponding to a given stimulus pressure or complex of forces but, rather, two (or more) distinct levels, each representing a relatively stable state. As the two levels are farther apart in the case of cumulation, the lack of determinism is more dramatically demonstrated here. History, with its temporary disturbances, could obviously be quite important in these cases. It is equally clear that *S* has an appreciable effect on the situation. If *S* varies, it means in general that the critical levels shift, and this in turn changes the probable outcome.

Speaking more generally, it is something of truism that any theory aspiring to be called "causal" will have to deal primarily with the *changes* units undergo, or *events* affecting them, rather than with static descriptions of the units. The latter type of information (cross-sectional data) will have a bearing on causal hypotheses only under certain conditions—broadly speaking, conditions of equilibrium. This conclusion appears to hold regardless of the size of unit

[20] G. Myrdal, with the assistance of R. Sterner and M. Rose, *An American Dilemma* (20th Anniversary ed.; New York: Harper & Row, 1962), pp. 1065–70.

[21] J. C. Harsanyi, "Explanation and Comparative Dynamics in Social Science," *Behavioral Science*, V (April, 1960), 136–45.

[22] W. E. Moore, "A Reconsideration of Theories of Social Change," *American Sociological Review*, XXV (December, 1960), 812. Moore's statement is made in the context of climatic and similar theories where it may well hold true.

investigated and is independent of the distinction between macro- and microanalysis.

CHANGE THEORY AND OBSERVATIONAL DATA

The mind can easily spin a finer web of theory and conjecture than data can either confirm or confute, and this danger is certainly acute in social macrotheory, whether static or dynamic; for, unlike microtheory, the number of observations is strictly limited. Before one looks at the present effort in the cold light of testability and judges it harshly as a consequence, a few arguments in its defense remain to be considered.

First, an exercise like the one presented here may serve a useful purpose in thinking about change on a high level of abstraction—the level on which a good deal of social change theory is located. At the very least, it may help to keep theoretical issues open. The terms in which technological power, or any other kind of determinism, has to be discussed begin to appear, and they are rather different from those that can be derived from an equilibrium-oriented theory. Second, though verification may now elude social scientists this need not always be the case. Time lags and simple delayed response would not appear to be hopelessly beyond the grasp of observation, and even measurement, though much remains to be done. It is an area where a mixed micro- and macromethod would appear most promising, for microstudies may reveal individual (small-unit) differences that explain time lags and make delayed response a predictable outcome, for instance, age and cohort effects. Also, it has been shown that microanalysis will be useful in providing conditional growth as a standard against which actual growth can be assessed.

The extent and impact of feedback as a source of instability, and a force behind growth and institutional change, is an even more difficult question, and the reconstruction of feedback curves (F), as in Figures 2–4, may now look like a utopian venture. But the only way of finding out what is possible is to try very hard for a long time, and this we have certainly not done. Again, certain kinds of microstudies would be of help in establishing awareness of other people's behavior as a correlate of individual response. The analytic task is certainly formidable, but giving it up implies resignation in a field which should have high priority for any sociologist.

UNIVERSITY OF LUND

Dimensions of Marriage Happiness

Susan R. Orden and Norman M. Bradburn

ABSTRACT

This paper is concerned with the development of a theoretical model of the structure of marriage happiness that may be useful for diagnosis, analysis, and prediction. An over-all model, composed of a dimension of satisfactions and a dimension of tensions which function independently to produce happiness in marriage, is suggested. The independent dimensions correlate in the expected directions with an individual's own assessment of his marriage, but do not correlate with each other. These characteristics suggest that the difference between an individual's scores on the satisfactions and tensions indexes, called the "Marriage Adjustment Balance Scale" (MABS), is a good over-all indicator of an individual's happiness in marriage. Marriage happiness self-ratings and the MABS were found to be positively related to over-all happiness ratings. Each of the marriage happiness indexes is also related to over-all happiness in the expected direction. Finally, marriage happiness is related to over-all happiness through both positive and negative affect, so that there appears to be a perfect meshing between the two-dimensional structure of marriage happiness and the two-dimensional structure of psychological well-being.

In a recent review of the major prediction studies in the field of marriage research, Bowerman concludes that no single measure of success will be satisfactory for all purposes and that it would be desirable to develop a set of measures that are interrelated in a meaningful way and could be used for a variety of research purposes. He suggests that "such measures should emerge from a conceptualization of the process of marital interaction that will be useful for diagnosis and analysis as well as for prediction."[1] We have developed a two-dimensional model of marriage happiness which, we hope, will contribute to the achievement of these goals.

Marriage happiness may be viewed as a resultant of two independent dimensions, a dimension of satisfactions and a dimension of tensions. Both dimensions are related to marriage happiness, yet they appear to operate independently in specifying levels of happiness. Satisfactions are positively related to marriage happiness, and tensions are negatively related to marriage happiness. Tensions and satisfactions are, however, virtually independent of each other. Thus, happiness in marriage may be viewed as a function of the balance between the satisfactions and tensions experienced in the marriage.

This model of the structure of marriage happiness was suggested by previous work on the structure of psychological well-being.[2] Bradburn and Caplovitz found that the concept of "happiness" or psychological well-being can best be seen as a function of two independent dimensions, those of positive and negative affect. A cluster analysis of responses to a series of questions on pleasurable and unpleasurable experiences in the recent past revealed two clusters of affective experience—one reflecting positive and one reflecting negative experiences. Although both clusters correlated in the expected directions with over-all ratings of happiness, the items in the positive cluster

[1] C. E. Bowerman, "Prediction Studies," in H. T. Christensen (ed.), *Handbook of Marriage and the Family* (Chicago: Rand McNally & Co., 1964), p. 239.

[2] N. M. Bradburn and D. Caplovitz, *Reports on Happiness* (Chicago: Aldine Publishing Co., 1965); N. M. Bradburn, *The Structure of Psychological Well-Being* (Chicago: Aldine Publishing Co., in press).

did not correlate with those in the negative cluster. The difference between positive and negative affect scores, called the Affect Balance Scale, was found to be the best indicator of an individual's psychological well-being.

Our model also follows the lead taken by Burgess and Wallin in the development of multiple criteria for measuring success in marriage.[3] Their criteria included three indexes of a general nature—permanence, happiness, and satisfactions—and several indexes of specific areas—consensus, love and affection, sexual satisfaction, companionship, and compatibility. Bowerman applauds Burgess and Wallin's efforts to use multiple criteria. But he points out that they could have made an important contribution by demonstrating that "(*a*) there was a high degree of internal consistency among items in each index, suggesting a unidimensional scale, and that (*b*) each index was measuring a different dimension as indicated by moderate or low intercorrelations among index scores."[4] This is what we will try to do.

We shall investigate, first, the individual's own assessment of his happiness in marriage. Second, we shall show by a cluster analysis of responses to two checklists —one on disagreements and another on satisfactions—that items in these batteries form two independent clusters—one of which we shall call "marriage tensions" and the other "marriage satisfactions." Finally, we will show how these two dimensions parallel the two dimensions of over-all psychological well-being.

Our data are taken from personal interviews by the NORC interviewing staff on the third wave of a longitudinal study of psychological well-being conducted in 1965. The men and women in the sample are not couples, but the sample includes 781 husbands and 957 wives, or a total of 1,738 married respondents. These respondents are drawn from a probability sample of four communities, two within the Detroit metropolitan area and one each from the Chicago and Washington metropolitan areas, and a fifth sample from the ten largest metropolitan areas in the United States.

SELF-REPORTS OF MARRIAGE HAPPINESS

In the belief that the best first approach is a direct one, we asked, "Taking all things together, would you say your marriage was very happy, pretty happy, or not too happy?" In response to our question, 60 per cent of the respondents in our sample reported that they were "very happy" in marriage, 36 per cent said they were "pretty happy," and 3 per cent reported they were "not too happy." This skewing of the distribution toward the "very happy" end of the scale is neither new nor surprising. A question in essentially this form, but with enough variation in scale to confound the researcher, has been used in numerous studies dating back to the early work on marriage in the 1920's and 1930's. Other investigators made substantially the same observations. A summary of the findings of selected studies, converted to the three-point scale used in this study, is shown in Table 1.

We believe that the consistent skewing of the distribution of self-reports of marriage happiness reflects the fact that it is possible, although often difficult, for most people to terminate an unhappy marriage. Among the studies cited, only the Burgess and Cottrell study includes reports from some divorced persons.[5] Twenty-two per cent of their respondents were "not too happy" in marriage, compared with negligible proportions in the other studies, which all excluded divorced respondents. The small proportion of our sample who report "not too happy" marriages are probably either having transitory difficulties or

[3] E. W. Burgess and P. Wallin, *Courtship, Engagement, and Marriage* (Chicago: J. B. Lippincott Co., 1954).

[4] Bowerman, *op. cit.*, p. 229.

[5] E. W. Burgess and L. S. Cottrell, Jr., *Predicting Success or Failure in Marriage* (New York: Prentice-Hall, Inc., 1939).

are in the process of dissolving their marriages.

The direct-question, self-evaluation method of rating happiness in marriage has become classic in marriage research. However, this may not deter the skeptic from wondering whether self-ratings are stable and valid. Although this paper reports data only from a large, cross-sectional sample, we can take advantage of four-wave panel data on a subsample to establish the stability of such rating methods. Table 2 shows that these ratings are remarkably stable over time. The γ coefficient of association between an individual's rating of his marriage happiness on Wave I and Wave II is .88 for men and .82 for women. We note similar degrees of stability between Waves II and III, and Waves III and IV, both for men and for women.

Even though we can thus establish that self-reports are stable, the question of validity remains. Other investigators have established the validity of self-reports of marriage happiness by comparing independent ratings made by husbands and by wives, by friends of one or both partners to the marriage, or by a judge familiar with the case histories. Since our respondents are not couples, we cannot compare the ratings of husbands and wives, nor do we have an independent evaluation by an outsider or judge. Thus we have no direct measures of validity. But we have no reason to believe that our study is subject to

TABLE 1

MARRIAGE HAPPINESS RATINGS REPORTED IN SELECTED STUDIES (PERCENTAGE DISTRIBUTION)

Selected Study	Marriage Happiness Rating			Total	
	Very Happy	Pretty Happy	Not Too Happy	Percentage	N
Present study	60	36	3	99	1,738
Bradburn and Caplovitz*	76	23	1	100	363
Gurin, Veroff, and Feld†	68	29	3	100	1,875
Landis‡	83	16	1	100	409
Terman‡	85	9	5	99	792
Burgess and Cottrell‡	63	14	22	99	526

* N. M. Bradburn and D. Caplovitz, *Reports on Happiness* (Chicago: Aldine Publishing Co., 1965), p. 40. The authors used a four-point scale: "very happy," "little happier than average," "just about average," "not too happy." We combined "very happy" and "little happier than average" into the "very happy" category.

† G. Gurin, J. Veroff, and S. Feld, *Americans View Their Mental Health* (New York: Basic Books, 1960), p. 92. The authors used a four-point scale: "very happy," "above average," "average," and "not too happy." We combined the "very happy" and the "above average."

‡ J. T. Landis and M. G. Landis, *Building a Successful Marriage* (New York: Prentice-Hall, Inc., 1953), p. 678. The authors converted the Terman ratings (seven-point scale) and the Burgess and Cottrell ratings (five-point scale) to a three-point scale, which they labeled "very happy or happy," "average," and "unhappy or very unhappy."

TABLE 2

STABILITY OVER TIME OF MARRIAGE HAPPINESS RATINGS*

(γ COEFFICIENT OF ASSOCIATION)

Wave	Marriage Happiness Rating	
	Men	Women
I II	88 (178)	82 (217)
II III	84 (160)	94 (197)
III IV	83 (161)	93 (203)

* Based on subsample in Detroit suburb.

any greater validity problems than those that have confronted other researchers.

The absolute magnitudes of marriage happiness ratings may reflect the particular phrasing of questions and are determined to some extent by the number of alternatives offered to the respondent. There is also some evidence that people tend to give more socially desirable responses in personal interviews than they do in self-administered questionnaires.[6] Our interest, however, is less in the absolute magnitudes than in the relationship of the over-all ratings of marriage happiness to its components, which would presumably be influenced by the same biases. Only if there were complex interactions such that biases acted in different directions for different groups of respondents would they seriously affect our conclusions.

MEASURES OF THE SEPARATE DIMENSIONS

In order to gain some insight into the components of marriage happiness, we constructed two checklists, one of disagreements in the marriage and the other of pleasurable activities in the marriage. In the development of a battery of items from which an index of the tensions in the marriage could be derived, we used items that had already been used by Bradburn and Caplovitz, many of which had also been employed by other investigators.[7] Respondents were read a list of items and were asked whether any of these had been sources of friction in their marriages during the past several weeks. The inventory included economic aspects of the marriage (husband's job and household expenses), recreational aspects of the marriage (leisure time, time spent away from the home, time spent with friends), and personal aspects of the marriage (irritating personal habits, being tired, not showing love).

The development of a battery of items from which an index of satisfactions could be constructed was more difficult because of the lack of precedents. After some experimentation, we decided on an inventory of activities that would be indicative of the positive side of the marriage but would not necessarily be correlated with disagreements in marriage. Some of these items were designed to tap the basic interpersonal relationship in the marriage; they were independent of activities with other people and did not involve any expenditure of funds. These items included having a good laugh, spending an evening just chatting with one another, doing something the other partner particularly appreciated, being affectionate, or taking a walk or drive just for pleasure. The other items were of a social nature; they did involve the expenditure of funds and might or might not involve other people. These items included going to a movie, the theater, or other entertainment; going to a restaurant; visiting friends together; or entertaining friends at home.

It should be noted that both the inventory of disagreements and the inventory of activities were asked in terms of experiences in the past several weeks. Interest in experiences in the recent past stems from our general theoretical concern with the effects of current environmental forces on the life adjustment of individuals. While we expect personality dispositions to have some effect on the kinds of experiences a person has and probably on the way he interprets and remembers them, we are more interested in measuring the contribution of environmental factors to adjustment in marriage.

The distribution of responses to the battery of items on satisfactions and tensions in marriage is shown in Table 3, sepa-

[6] S. Sudman, A. Greeley, and L. Pinto, "The Effectiveness of Self-administered Questionnaires," *Journal of Marketing Research*, XII (August, 1965), 293-97.

[7] Burgess and Cottrell, *op. cit.*; L. M. Terman, *Psychological Factors in Marital Happiness* (New York: McGraw-Hill Book Co., 1938); H. J. Locke, *Predicting Adjustment in Marriage: A Comparison of a Divorced and a Happily Married Group* (New York: Ronald Press, 1963); Burgess and Wallin, *op. cit.*

rately for men and for women. We see that the proportion of men and women responding "yes" to the satisfactions checklist is substantially higher than the proportion responding "yes" to the tensions items. This suggests that, in the aggregate, the marriage relationship is happy for the respondents in our sample, and confirms the findings based on the respondents' own assessment of their marriages.

Two of the items in the satisfactions checklist—"had a good laugh together" and "been affectionate with each other"—were indorsed by 95 per cent of the sample, while over 70 per cent of the respondents said "yes" to four other items—"spent an evening just chatting," "did something the other appreciated," "visited friends together," and "entertained friends in your home." The remaining three items were indorsed by at least 50 per cent of the sample.

In contrast, the highest proportions of "yes" responses to the checklist of disagreements or problems in the marriage were 27 per cent for "being tired" and 25 per cent for "irritating personal habits." Of the remaining seven items, four were indorsed by less than 20 but more than 10 per cent of the sample, and three by 10 per cent or less of the sample.

TABLE 3

DISTRIBUTION OF RESPONSES TO MARRIAGE RELATIONSHIP ITEMS
(PERCENTAGE "YES" FOR MEN AND WOMEN)

Marriage Relationship Items	Men (N = 772)	Women (N = 944)	Total (N = 1,716)
I'm going to read you some things that married couples often do together. Tell me which ones you and your (husband/wife) have done together in the *past few weeks:*			
Had a good laugh together or shared a joke	96	94	95
Been affectionate toward each other	96	94	95
Spent an evening just chatting with each other	85	84	84
Did something the other particularly appreciated	81	77	79
Visited friends together	75	74	74
Entertained friends in your home	71	69	70
Taken a drive or walk for pleasure	68	60	64
Gone out together—movie, bowling, sporting, or other entertainment	54	54	54
Ate out in a restaurant together	52	49	50
Now I'm going to read you some things about which husbands and wives sometimes agree and sometimes disagree; would you tell me which ones caused differences of opinions or were problems in your marriage *during the past few weeks?*			
Being tired	25	28	27
Irritating personal habits	20	29	25
Household expenses	20	19	19
Being away from home	20	18	19
How to spend leisure	18	12	15
Time spent with friends	12	11	12
Your (husband's) job	10	9	10
In-laws	8	11	10
Not showing love	9	8	9

The reader has undoubtedly observed that specific items on sexual relations are conspicuous by their absence from both the inventory of tensions and the inventory of satisfactions in the marriage. However, the items "not showing love" and "being tired" in the tensions battery, and "showing affection" in the satisfactions battery, were designed to tap sexual problems

and satisfactions. Our indirect approach to sex stems, not from modesty, but from the expectation that a general interview schedule covering a wide range of life experiences is not the best vehicle for intimate disclosures. In their study of Detroit wives, Blood and Wolfe found:

> As for sex, not a single farm woman ventured to mention this private subject to our interviewers despite the fact that most of the interviewers were women. The handful of city wives bold enough to specify this area of disagreement unquestionably leads to an understatement of sexual conflict in the general population. A better estimate might be secured by using a list of topics to be checked. Left to their own initiative, however, respondents probably hesitated to utter the three-letter word.[8]

Certainly Kinsey and his associates have demonstrated that people are not reluctant to discuss sex, but the emphasis and design of an interview schedule on sexual activities would be quite different from ours.

In general, we note that there is little difference between men and women in the proportion reporting either that they did something they enjoyed or that they argued about something with their spouse. However, it is interesting to note that men are consistently more likely than women to indorse each of the nine satisfaction items and six of the nine tension items. The differences are small but of particular interest since they run counter to Bradburn's finding that the women in the sample have a greater responsiveness than the men to the battery of items describing general feeling states.[9] The fact that responses favor men on one battery of items and women on another suggests that there is no strong, consistent "yea-saying" response bias running through the core of the data.

While the individual items in the battery of disagreements and pleasurable activities are of considerable intrinsic interest, our major objective is to determine whether these items can be combined in some meaningful way to describe a general negative tone of tensions in marriage and a general positive tone of satisfactions in marriage. The correlations between the responses to the various items in both the satisfactions and the tensions checklists are shown in Table 4. The values for men are shown in the upper half of the matrix; the values for women appear in the lower half.

The items in the satisfactions battery appear to cluster into two groups, one of four sociability items describing the joint relationship of husband and wife to the outside world of friends and social activities, and the other of five companionship items describing the personal relationship between husband and wife—the understanding, friendship, and affection of each for the other. Even though there are generally positive correlations between all the items in the satisfactions battery, the clustering along two dimensions which have a "face validity" seems to justify the construction of two separate indexes, one of marriage sociability and the other of marriage companionship. The Q-values of association of the items within each of these two blocks of satisfactions suggest that indexes based on the level of "yes" responses would constitute adequate and appropriate measures of underlying dimensions of sociability and companionship in marriage. The average Q-value on the sociability items is .48 for men and .47 for women, and on the companionship items it is .62 for men and .69 for women.

Looking at the inventory of disagreements in the bottom right-hand corner of Table 4, we see that the Q-values of association for this group suggest that these nine items can be combined into an index to measure tensions in the marriage relationship. The average Q-value is .46 for men and .50 for women.

The crucial question is whether satisfactions and tensions in marriage are merely

[8] R. O. Blood, Jr., and D. M. Wolfe, *Husbands and Wives: The Dynamics of Married Living* (Glencoe, Ill.: Free Press, 1960), pp. 243–44.

[9] Bradburn, *op. cit.*

TABLE 4

Q-VALUES OF ASSOCIATION BETWEEN ITEMS IN MARRIAGE RELATIONSHIP INDEXES*

	Visited Friends Together	Out Together to Movie, Etc.	Entertained Friends	Ate Out in Restaurant	Spent Evening Chatting	Good Laugh	Drove or Walked for Pleasure	Did Something Other Appreciated	Affectionate	Times with Friends	Household Expenses	Being Tired	Being Away from Home	In-Laws	Not Showing Love	Your (Husband's) Job	How To Spend Leisure	Irritating Personal Habits
Marriage sociability:																		
Visited friends together..	...	.53	.63	.55	.22	54	.46	36	.56	−.20	−05	−05	−19	−25	−07	−.13	−.18	.04
Out together to movie, etc.	.56	....	.24	.63	02	.65	32	.28	.27	.13	−01	−03	19	−07	.01	.01	.10	.06
Entertained friends	.58	.35	.	.28	.15	45	.27	.33	.48	−03	04	−01	−01	−02	−06	−.01	−.01	.01
Ate out in restaurant	.39	.69	27	.....	.08	.78	.34	31	.62	−03	−20	−11	03	−20	01	.12	10	.10
Marriage companionship:																		
Spent evening chatting..	39	.24	.21	.11	...	55	49	47	.62	−23	−.08	−.23	−26	−12	−40	.19	−21	−.09
Good laugh ...	66	.70	.57	.50	.80	..	61	.78	.86	−15	−38	−.17	−37	−17	−51	26	−03	−.14
Drove or walked for pleasure	48	.39	.25	.36	.56	.69	.	54	.54	−11	−21	−.00	−06	−19	−28	03	−07	−.03
Did something other appreciated.	34	.28	37	.29	.51	.76	47		.74	.10	−.10	.14	09	05	07	28	21	.15
Affectionate ...	68	.60	49	.53	.74	.90	.68	.77	...	−.49	−60	.12	−32	−50	−65	1 00	−45	−.31
Marriage tensions—disagreed about:																		
Times with friends	−19	−04	.26	−.16	−28	−40	−14	−17	−46	..	.58	.43	.74	43	.54	07	.71	.50
Household expenses	−03	−06	00	−.07	−23	−34	−04	−21	−38	57	.	.36	.25	43	62	.37	28	.40
Being tired ..	.09	−05	−03	−01	−12	−11	−06	−01	−11	47	.52	.	36	43	.44	.44	39	.51
Being away from home	−11	−.03	−00	−.02	−39	−.19	−28	−20	−38	.74	39	.37		57	45	.64	.63	.25
In-laws.	06	19	17	.11	−28	−12	−20	02	−09	61	.54	.36	46		.68	.54	.44	.53
Not showing love	−15	−18	12	−10	−56	−50	−37	−43	−.69	71	49	59	.55	.55	. .	.42	.59	.67
Your (husband's) job	−03	01	03	−.07	−10	.11	−.15	−04	−34	32	.49	50	59	41	45		35	.18
How to spend leisure	−11	06	−22	06	−24	−36	−19	−22	−39	66	51	51	51	54	56	35	..	.53
Irritating personal habits	−06	−04	03	−03	−16	−28	−09	02	−27	.51	47	48	22	42	66	26	56	.....

* Upper half of matrix responses for men, $N = 781$, lower half for women, $N = 957$

opposite ends of a single continuum of experiences and are highly negatively correlated with each other or whether they are relatively independent dimensions. The correlations between the items in each of the two satisfactions inventories with the items in the tensions inventory suggest that these items fall into two distinct clusters which have little or only moderate relationship to one another. The *Q*-values between tensions and satisfactions are more often negative than positive, but are generally and consistently low, with one notable exception. "Affectionate" in the satisfactions battery and "not showing love" in the negative checklist are negatively correlated with each other. These two items do indeed appear to be describing the negative and positive aspects of a single dimension. However, these items were not excluded from the construction of the satisfactions and tensions indexes because they were judged to be essential ingredients of both sides of the marriage relationship; nor were they handled separately because there were not enough items to derive a separate index of love and affection. We might note, however, that these items contribute little to the variance of the indexes, since almost everyone in the sample (95 per cent) responded "yes" to the affectionate item, and almost no one (9 per cent) responded "yes" to disputes about not showing love.

The average *Q*-values of association between the sociability items and the tensions items are —.03 for men and —.02 for women, while the average *Q*-values between the companionship items and the tensions are —.12 for men and —.23 for women. These levels of association are low or moderate enough to suggest that the items in the satisfactions and tensions inventories are not merely tapping the negative and positive aspects of a single dimension. Satisfactions and tensions appear to be describing two separate and independent dimensions of the marriage relationship.

On the strength of the factors noted above—(1) the high level of association among the items in each of three groups: companionship, sociability, and tensions; (2) the low association between sociability and tensions and the moderate association between companionship and tensions; and (3) the expectation that companionship and sociability, although related to each other, were tapping somewhat different dimensions of satisfaction in marriage—we constructed three indexes of marriage relationship: an index of companionship, an index of sociability, and an index of tensions. These indexes were based on the level of response to the satisfactions and tensions checklists. Each respondent was given a score of one for every "yes" response and a score of zero for every "no" response to the checklist items which were selected for inclusion in each of the three indexes.

There were five items in the companionship checklist, four items in the sociability checklist, and nine items in the tensions checklist. The resulting scores for the companionship index thus range from 0 to 5, the scores for the sociability index from 0 to 4, and the scores for the tensions index from 0 to 9. The percentage distribution of these three indexes is shown in Table 5, separately for men and for women.

We see that close to 50 per cent of the respondents in our sample are at the highest position on the marriage companionship index, reporting five companionable activities with their spouses during the past several weeks. Thirty per cent report four companionable activities, 13 per cent report three activities, and 4 per cent report fewer than three activities.

The distribution of the sociability index is somewhat less skewed. Roughly one-quarter of the respondents are at the highest position on the sociability scale, reporting four joint social activities during the past few weeks, another quarter report three activities, a third quarter report two activities, and the remaining quarter report either one or no joint social activities.

In contrast, the marital tensions index

is skewed in the opposite direction. Thirty-eight per cent of the sample report no disagreements or problems in marriage in the past few weeks, 24 per cent only one problem, 15 per cent two problems, 10 per cent three problems, and the remaining 12 per cent report as many as from four to nine problems in decreasing proportions.

There is some tendency for men to be higher than women on the companionship index, but little or no differences between men and women in their relative positions on the sociability and tensions indexes.

TABLE 5

THREE MARRIAGE ADJUSTMENT INDEXES: COMPANIONSHIP, SOCIABILITY, TENSIONS (PERCENTAGE DISTRIBUTION BY SEX)

Level	Marriage Companionship			Marriage Sociability			Marriage Tensions		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 . . .	1	1	1	8	8	8	39	38	38
1 .	1	3	2	15	15	15	24	25	24
2 .	4	4	4	22	25	24	14	15	15
3 .	12	14	13	29	27	28	10	10	10
4 . . .	29	31	30	26	25	26	6	6	6
5 .	53	46	49				4	3	3
6 .							1	2	2
7 .							1	1	1
8 .							*	*	*
9 .							*	*	*
Total percentage	100	99	99	100	100	101	99	100	99
N − NA		1,716			1,724			1,738	
NA		22			14			0	
N .		1,738			1,738			1,738	

* Less than 1 per cent

THE RELATION OF SATISFACTIONS AND TENSIONS TO MARRIAGE HAPPINESS

We can test the validity of the dimensions we have constructed by measuring them against an individual's own assessment of his happiness in marriage. We would certainly expect pleasurable experiences to enhance a person's probability of being happy in marriage and disagreeable experiences to take their toll on marriage happiness. In Table 6 we see that the two satisfactions indexes are both positively related to marriage happiness and that the tensions index is negatively related to marriage happiness. The companionship index is more strongly related to marriage happiness than the sociability index, suggesting that personal relationships between husband and wife are more important in marriage than the social activities they enjoy together. Tensions are related to marriage happiness in about the same degree as companionship, although, of course, in the opposite direction. (The γ coefficients be-

TABLE 6

COEFFICIENTS OF ASSOCIATION AMONG MEASURES OF MARRIAGE ADJUSTMENT*

Measures	Companionship	Sociability	Tensions	Happiness
Companionship	. .	.34	− 08	44
Sociability. . .	.37		− 01	20
Tensions	− 15	.02		− 36
Happiness. .	.40	26	− 41	

* Upper half of matrix responses for men, $N = 781$; lower half for women, $N = 957$.

tween the companionship index and marriage happiness are .44 for men and .40 for women; between the sociability index and marriage happiness, they are .20 for men and .26 for women; and between the tensions index and marriage happiness, they are — .36 for men and — .41 for women.)

We have already observed that the association between the individual items in the tensions inventory and the satisfactions inventory is generally low. We would, therefore, certainly expect the association between the indexes derived from these items to be low. In Table 6 we see that there is virtually no relationship between the tensions index and the sociability index either for men or for women—the γ coefficients are — .01 and .02, respectively. There is only a slight negative association between the companionship-tensions indexes—the γ coefficients are — .08 for men and — .15 for women. We have already discussed the fact that these indexes are contaminated by the presence of two items ("affectionate" in the companionship index and "not showing love" in the tensions index) which are highly negatively correlated with each other and are quite obviously the positive and negative expression of the same dimension. Omission of these items would have further reduced the association between the two indexes.

As we would expect from the correlations between the individual items, there is a moderate positive association between the two satisfactions measures (.34 for men and .37 for women). We made a distinction between companionship and sociability because we believe that there is an intrinsic difference in the areas they describe and because we expect this distinction to prove fruitful in analysis of the relation between work and marriage adjustment which we plan for subsequent papers. On the other hand, since the two satisfactions indexes do show considerable positive association, they may be combined into a total satisfactions index when we are interested only in a global satisfactions measure.

TABLE 7

RELATION OF THREE MARRIAGE ADJUSTMENT INDEXES TO MARRIAGE HAPPINESS RATINGS

Marriage Adjustment Index			Marriage Happiness Rating (Percentage)			Total	
Companionship	Sociability	Tensions	Very Happy	Pretty Happy	Not Too Happy	Percentage	$N-NA$
High	High	Low	77	23	0	100	374
High	Low	Low	73	27	0	100	184
Low	High	Low	70	29	1	100	201
High	High	High	62	38	0	100	170
Low	Low	Low	57	40	3	100	311
High	Low	High	57	40	4	101	111
Low	High	High	42	52	7	101	166
Low	Low	High	29	55	16	100	192
Total			60	36	3	99	1,708

$N-NA$	1,708
NA. . .	30
N . . .	1,738

COMBINED RELATION OF TENSIONS AND SATISFACTIONS TO MARRIAGE HAPPINESS

The relationships we have observed thus far consider a person's index score on only one dimension at a time and disregard his

scores on the others. In order to provide a reasonable case base for the comparison of companionship, sociability, and tensions with marriage happiness, we combined the responses for men and women to show the data for the sample as a whole. Each of the three indexes were dichotomized and cross-tabulated with the marriage happiness question. The results are shown in Table 7.

As one would expect, we see that those who are most likely to be "very happy" in marriage are low in tensions and high on both satisfactions indexes. In this group, 77 per cent report that they are "very happy," 23 per cent are "pretty happy," and no one reports that he is "not too happy." This compares with an average for the sample of 60 per cent "very happy," 36 per cent "pretty happy," and 3 per cent "not too happy."

There are also other combinations which yield an above-average probability of happiness in marriage. It seems quite clear that those who are low in tensions achieve an above-average probability of happiness in marriage, provided they are at the same time high either in companionship or in sociability. Companionship has a slight edge over sociability, as we would expect from our observations that the correlation between companionship and marriage happiness is stronger than the correlation between sociability and marriage happiness.

On the other hand, high tensions guarantee that the marriage will fall below average on the happiness scale unless they are offset by both high companionship and high sociability. The person who is high in tensions and at the same time high in companionship but low in sociability falls just a little below average. The person who is high in tensions, low in companionship, and high in sociability is beginning to slip well below average. And, finally, the person who is high in tensions and low in both companionship and sociability is at the bottom of the heap. Only 29 per cent of these people report "very happy" marriages. It is also at this point that there is a large increase in the "not too happy" category—16 per cent, compared with an average of 3 per cent for the sample as a whole.

THE COMPOSITE INDEX

An alternative to viewing a person's position simultaneously on each of three indexes of marriage adjustment would be to consider whether the difference between his score on the tensions index and his score on the two satisfactions indexes is an adequate indicator of marriage adjustment. In his study of psychological well-being, Bradburn found that the difference between the scores on indexes of positive and negative affect, which he calls the Affect Balance Scale, is a good indicator of an individual's current level of adjustment.[10] If a Marriage Adjustment Balance Scale can be established along the lines suggested by Bradburn, we could derive a single score based on responses to eighteen questions on marriage adjustment. This score would have several advantages. It would permit ease in handling compared with the complexity of three separate indexes of marriage adjustment. A single score would be at least as reliable, and possibly more reliable, than an individual's self-assessment of his marriage happiness and would, at the same time, permit finer distinctions between respondents than are now available from the three choices open to respondents on the marriage happiness question.

Since tensions and satisfactions are independent of each other, we cannot predict a person's tensions index from either of his satisfactions indexes or both combined. However, knowing that the indexes are related to marriage happiness in opposite directions enables us to predict that a person who is high in satisfactions and low in tensions will rate himself as "very happy" in marriage, while a person who is low in satisfactions and high in tensions will be "not too happy." Thus, the difference between the scores on the tensions and the total satisfactions indexes would probably be a

[10] *Ibid.*

TABLE 8

RELATION OF MARRIAGE ADJUSTMENT BALANCE SCALE (SATISFACTIONS − TENSIONS) TO MARRIAGE HAPPINESS RATINGS

Relation of Indexes		Marriage Adjustment Balance Scale (Difference)	Marriage Happiness Rating (Percentage)			Total	
			Very Happy	Pretty Happy	Not Too Happy	Percentage	N − NA
Satisfactions > tensions.*							
6	0	+6	78	22	0	100	129
6	1	+5	72	28	0	100	74
5	0		77	23	0	100	131
6	2	+4	74	26	0	100	35
5	1		78	22	0	100	91
4	0		78	22	0	100	130
6	3	+3	70	30	0	100	30
5	2		65	35	0	100	51
4	1		67	32	0	99	87
3	0		71	29	0	100	109
6	4	+2	35	65	0	100	20
5	3		58	42	0	100	36
4	2		56	42	2	100	66
3	1		63	35	1	99	82
2	0		67	33	0	100	91
5	4	+1	48	52	0	100	48
4	3		54	46	0	100	26
3	2		62	38	0	100	50
2	1		53	47	0	100	53
1	0		50	48	2	100	40
Satisfactions = tensions							
4	4	0	33	56	11	100	55
3	3		40	60	0	100	42
2	2		53	44	3	100	34
1	1		(32)†	(63)	(5)	100	19
0	0		30	55	15	100	20
Satisfactions < tensions:							
3	4	−1	32	40	28	100	25
2	3		20	80	0	100	20
1	2		(50)	(36)	(14)	100	14
0	1		(8)	(46)	(46)	100	13
2	4	−2	16	64	20	100	25
1	3		(27)	(54)	(18)	99	11
0	2		(11)	(67)	(22)	100	9
1	4	−3	(6)	(44)	(50)	100	16
0	3		(0)	(57)	(43)	100	7
0	4	−4	(0)	(53)	(47)	100	19

N − *NA*	1,708
NA on satisfactions and tensions; *NA* on marriage happiness	30
N	1,738

* The two satisfactions indexes have been combined in order to simplify the tabular presentation. However, before doing this, we looked at the various combinations of the three indexes, and these are available for anyone interested in the details.

† Percentages for *N* of less than 20 in parentheses.

good indicator of a person's happiness in marriage.

In calculating the difference scores, we collapsed certain categories in order to offset the skewed distributions and to provide an adequate case base. We collapsed into a "zero" category the scores for 0, 1, and 2 on the companionship index and the scores for 0 and 1 on the sociability index. This reduced both indexes to four-point scales ranging from 0 to 3. Then the sociability and companionship indexes were combined into a total satisfactions scale ranging from 0 to 6. Categories 4 through 8 on the tensions index were collapsed, giving a tensions scale ranging from 0 to 4. The difference between total satisfactions and tensions thus runs from a possible score of + 6 to − 4.

Combining the two scales, however, presents certain methodological problems. At the extremes of the balance scale where the level of difference is + 6 at one extreme and − 4 at the other, the difference score is clearly and obviously an appropriate indicator of marriage happiness. In Table 8, we see that among those respondents who have the highest total satisfactions index and the lowest tensions index (with a + 6 difference score), 78 per cent are "very happy" in marriage and 22 per cent are "pretty happy," while no one in this group reports that he is "not too happy." In contrast, at the other end of the scale, among respondents who are highest in tensions and lowest in satisfactions (with a − 4 difference score), no one reports that he is "very happy," 53 per cent are "pretty happy," and 47 per cent are "not too happy."

But a question arises with the intermediate range of scores on the balance scale: Can a single difference score which describes more than one possible combination of satisfactions and tensions be construed as an appropriate measure of adjustment in marriage, or are the absolute levels of satisfactions and tensions important in addition to the difference between the two? For example, respondents who have a difference score of + 4 could have one of several possible combinations of satisfactions and tensions. This difference score could be composed of a score of 6 on the combined satisfactions index and a score of 2 on the tensions index, or a score of 5 on satisfactions and 1 on tensions, or a score of 4 on satisfactions and 0 on tensions.

We see in Table 8 that the marriage happiness ratings show little or no variation for the three combinations which yield a difference score of + 4. The ratings are 74, 78, and 78 per cent for "very happy"; 26, 22, and 22 per cent for "pretty happy"; and zero in each case for "not too happy." Thus it seems clear that the difference score of + 4 could well be construed as an adequate measure of adjustment in marriage. Similarly, although there is some variability in other difference scores (particularly in those cases where the N's are small), the marriage happiness reports are sufficiently stable to suggest that the difference between satisfactions and tensions is a good indicator of an individual's current marriage adjustment.

The relationship between the difference scale, which we call the Marriage Adjustment Balance Scale (MABS), and the marriage happiness reports is summarized in Table 9. For ease in computation, the scores have been converted from an eleven-point scale, ranging from + 6 to − 4, to a scale ranging from 10 to 0. The scores for 0, 1, 2, and 3 are the negative scores in which tensions exceed satisfactions; 4 is the zero or balance score where tensions equal satisfactions; and the scores from 5 to 10 are the positive scores where satisfactions exceed tensions.

This table highlights the dramatic changes in marriage happiness as one moves from the top of the MABS, where satisfactions are at the highest possible level on our scale and tensions are zero, to the bottom of the MABS, where satisfactions are zero and tensions are at the highest possible level. At the top of the scale, 78 per cent are "very happy," 22

TABLE 9

RELATION OF MARRIAGE ADJUSTMENT BALANCE SCALE TO MARRIAGE HAPPINESS

(PERCENTAGE DISTRIBUTION)

MABS	Marriage Happiness Ratings			Total	
	Very Happy	Pretty Happy	Not Too Happy	Percentage	$N-NA$
Satisfactions > tensions:					
10	78	22	0	100	129
9	75	25	0	100	205
8	78	22	0	100	256
7	68	31	0	99	277
6	60	39	1	100	295
5	53	46	1	100	218
Satisfactions = tensions:					
4	38	55	6	99	170
Satisfactions < tensions:					
3	28	51	21	100	72
2	18	62	20	100	45
1	4	48	48	100	23
0	0	53	47	100	19

γ coefficient = .47.

$N-NA$	1,709
NA	29
N	1,738

TABLE 10

DEMOGRAPHIC VARIABLES, PSYCHOLOGICAL DIMENSIONS, MABS, AND MARRIAGE HAPPINESS RATINGS

(γ COEFFICIENT OF ASSOCIATION)

Demographic Variables	MABS	Marriage Happiness Rating
Sex (male high)	.04	.04
SES	.12	.15
Sex and SES:		
Male	.09	.10
Female	.17	.26

Psychological Dimensions	MABS		Marriage Happiness Rating	
	Male	Female	Male	Female
Feeling states within marriage:				
Feelings of inadequacy as a spouse	−.41	−.32	−.40	− 32
Feelings of inadequacy as a parent	−.40	−.17	−.29	−.12
Over-all evaluations:				
Experience as a parent	.29	.20	.66	.48
Assessment of over-all happiness	.29	.41	.68	.86

per cent are "pretty happy," and no one is "not too happy." At the bottom of the scale, no one is "very happy," 53 per cent are "pretty happy," and 47 per cent are "not too happy."

The γ coefficients of association between the MABS and the marriage happiness reports are .47 for the sample at a whole, .44 for men, and .50 for women.

MARRIAGE HAPPINESS AND THE MABS AS ALTERNATIVE MEASURES

We can explore the construct validity of the MABS by comparing the relationship between the MABS and self-reports of marriage happiness and several demographic and psychological variables. In Table 10 we see that the strength of the relationship between sex and socioeconomic status is about the same for both the MABS and self-reports of marriage happiness. There is a slight tendency for males to be higher than females both on the MABS and on their own assessment of their happiness in marriage. Both indicators are positively related to socioeconomic status, and the relationship is stronger for women than for men in both cases.

We can also compare the MABS and self-reports of marriage happiness with respect to their degree of association with other variables indicative of adjustment—feelings of adequacy in role performance as a spouse or parent and self-reports of over-all satisfaction with life. Feelings of role inadequacy were measured by response to the questions, "During the past few weeks have you ever felt that you were not the kind of husband or wife you would like to be?" and "During the past few weeks did you ever feel you were not the kind of mother or father you would like to be?" The individual's experience as a parent was measured by responses to the question, "Taking all things together, how would you describe your recent experiences as a parent—would you say that they have been very satisfying, pretty satisfying, or not especially satisfying?" Over-all happiness was measured by the question, "Taken altogether, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?"

In Table 10 we see that on specific feeling states within the marriage, such as feelings of inadequacy in the role of spouse or parent, the MABS is at least as good, and sometimes a better, indicator than the marriage happiness ratings. On the other hand, when we move from specific feeling states to measures of psychological dimensions which involve an over-all evaluation of current life experiences, such as the individual's assessment of his experience as a parent or his assessment of his general happiness, the MABS is not as good an indicator as the marriage happiness reports. The coefficients of association between these over-all evaluative psychological variables and the MABS are lower than they are with the marriage happiness reports. The direction of sex difference, however, is the same for both measures; parental satisfaction shows a higher association with both measures for men, and over-all happiness shows a higher positive association for women.

In spite of some differences in the strength of association between the two measures and other variables indicative of life satisfactions, we believe that the consistency in the signs of the association and in the differences between men and women warrant treating them as alternative measures of the same underlying construct. If a summary measure of marriage happiness is desired, it is not clear which of the two measures would be better. The direct evaluation of marriage happiness has an advantage in its simplicity and face validity but suffers from the more obvious problems of response bias, social desirability, and the limited number of discriminable categories. The MABS, based on responses to a larger number of questions, permits finer discriminations and is less susceptible to obvious response biases but, of course, is

not entirely free of social desirability problems.

The chief advantage of the MABS, however, lies not in its use as a summary measure of marriage happiness but in the ability to treat its component parts as separate measures and study their independent variation. We expect not only that the different parts of the MABS will not correlate with one another but also that experiences both within the marriage and *particularly in important roles outside the marriage* will have differential consequences for tensions and satisfactions in marriage. Such differential consequences will be the subject of subsequent papers.

TABLE 11

COEFFICIENTS OF ASSOCIATION BETWEEN MARRIAGE ADJUSTMENT INDEXES AND INDICATIONS OF PSYCHOLOGICAL WELL-BEING BY SEX

PSYCHOLOGICAL WELL-BEING	MARRIAGE ADJUSTMENT INDEX							
	Tensions		Companionship		Sociability		MABS	
	Men	Women	Men	Women	Men	Women	Men	Women
Over-all happiness.... .	− 29	− 38	20	.28	14	.18	29	41
Positive affect......	.04	02	22	33	16	.25	.40	23
Negative affect. .	39	39	− 03	− 12	− 02	00	− 24	− 26
Affect Balance Scale ..	− 21	− 26	17	29	12	16	23	.34
N............. .	(781)	(957)	(772)	(944)	(777)	(947)	. .	. ..

PARALLELISM BETWEEN STRUCTURE OF MARRIAGE HAPPINESS AND OF PSYCHOLOGICAL WELL-BEING

We have found that an individual's own assessment of his marriage is a reasonably valid and stable measure of happiness in marriage, but that self-reports tell us little about the composition of the marriage relationship. In order to gain insight into the dimensions of marriage happiness, we constructed two lists of everyday experiences, one describing disagreements and the other describing pleasurable activities in the marriage. By means of a cluster analysis of responses to these items, we showed that marriage experiences cluster into a negative dimension of tensions and into a positive dimension of satisfactions, composed of companionship and sociability. We found that clusters correlate in the expected directions with self-ratings of marriage happiness but that tensions and satisfactions are relatively independent of each other. The difference between tensions and satisfactions—the Marriage Adjustment Balance Scale—proved to be a good indicator of an individual's happiness in marriage. Thus we conclude that the structure of marriage happiness parallels the structure of psychological well-being developed earlier by Bradburn and Caplovitz. We can carry the parallelism between the structure of marriage happiness and the structure of psychological well-being one step further by meshing the dimensions of marriage happiness with those of over-all happiness.

Since marriage is a central role around which family life is organized, we would expect adjustment in marriage to be strongly related to over-all concepts of happiness. In fact, we have already noted that both the marriage happiness ratings and the MABS are positively related to over-all happiness ratings and that the relationship is stronger with marriage happiness

than it is with the MABS. Previous studies also have uniformly found a strong association between self-reports of general happiness and reports of marriage happiness.[11]

In addition to the association between measures of general happiness in marriage and over-all happiness, we see in Table 11 that each of the marriage adjustment indexes is also related to over-all happiness in the directions one would expect on the basis of a two-factor hypothesis. Tensions in marriage are negatively related to over-all happiness, and the two marriage satisfactions indexes are positively related to over-all happiness. On each of the marriage adjustment measures—the indexes of tensions, companionship, and sociability and the composite MABS—the association with over-all happiness is considerably stronger for women than it is for men.

The critical question, however, is whether marriage happiness is related to over-all happiness through both positive and negative affect. If the model of two dimensions functioning independently to produce feelings of happiness in marriage and feelings of general well-being is a frutiful one, we would expect that the tensions index would be related only to negative affect and that the two marriage satisfactions indexes would be related only to positive affect.

The data shown in Table 11 confirm our hypothesis. Tensions and satisfactions, which represent the negative and positive sides of the marriage relationship, are related only to their corresponding indicators on the dimension of happiness or psychological well-being. Tensions are positively related to negative affect (γ is .39 for both men and women), while the relationship with positive affect is almost zero. Companionship shows a positive relationship with positive affect (γ coefficients are .22 for men and .33 for women) and a slight negative relationship with negative affect. The sociability index conforms to the pattern of relationship between the companionship index and the indicators of psychological well-being, but at a lower level. There is a positive association with positive affect (γ correlations are .16 for men and .25 for women) and a zero relationship with negative affect. The MABS, then, is related to both positive and negative affect, but in different directions.

There appears to be a perfect meshing between the two-dimensional structure of marriage happiness and the two-dimensional structure of psychological well-being.

RESEARCH IMPLICATIONS

This conceptualization of marriage happiness provides a framework for analyzing the structure of the marriage relationship and for observing how different mixes of satisfactions and tensions affect the probability of happiness in marriage. It also enables us to pursue several other lines of investigation. In subsequent papers, we will analyze the effect of current life situation—social environment, stage in the life cycle, particular life events and adjustment to these events—on the probability of happiness in marriage. We will then be better able to determine some of the mechanisms through which various factors in an individual's life have an impact on marriage happiness—that is, whether happiness is affected by an increase or decrease in satisfactions or in tensions or by some combination of both of these dimensions.

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[11] G. Watson, "Happiness among Adult Students of Education," *Journal of Educational Psychology*, XXI (1930); A. E. Wessman, "A Psychological Inquiry into Satisfaction and Happiness" (Ph.D. dissertation, Princeton University, 1956); Bradburn and Caplovitz, *op. cit.*

Participation in Interscholastic Athletics and College Expectations[1]

Richard A. Rehberg and Walter E. Schafer

ABSTRACT

Data from 785 male seniors from six urban Pennsylvania high schools are used to evaluate the relationship between post-high-school educational expectations and participation or non-participation in interscholastic athletic activities. A zero-order γ of .28 indicates that expectations and participation are positively associated. The possibility that this association is spurious is tested by statistically controlling three potentially confounding variables: social status, academic performance, and parental educational encouragement. A third-order net partial association of .24 suggests that the association is not spurious, that the positive relationship between expectations and participation is a result of the socialization experiences of athletics rather than of differential selection into high school sports. Further analyses indicate, however, that the positive association between expectations and participation is not constant over relevant categories of the control variables but that the relationship is an interactive one; specifically, that the positive association between expectations and participation is strongest for those categories of respondents least positively disposed toward a college education and weakest for those categories of respondents most disposed toward a college education.

INTRODUCTION

James Coleman has remarked that a stranger in an American high school might well suppose, by looking and listening, that "more attention is paid to athletics by teenagers, both as athletes and as spectators than to scholastic matters."[2] Certainly, the vast amounts of spectator and participant time and energy devoted to athletic teams attest to the importance of high school sports, both to the students themselves and to their communities.

Given this importance, the question can be raised as to what effect, if any, interscholastic athletics has upon the educational objectives of the high school. One of these objectives is the preparation of students for college. The question examined in this paper is whether participation in interscholastic sports exerts a positive or a negative influence on boys' educational expectations.

Since literature on the athletic participation–educational expectation relationship is virtually non-existent, we cannot approach the construction of hypotheses directly but must do so circuitously, namely, by noting the findings of those studies which have investigated the relationships between athletic participation and those variables linked with educational expectations.

One set of such studies is concerned with athletic participation and academic performance, and academic performance and educational expectations. A positive association between participation and performance has been reported by several investigators, including Eidsmore, Schafer and

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[2] James S. Coleman, "Athletics in High Schools," *Annals of the American Academy of Political and Social Sciences*, CCCXXXVIII (November, 1961), 33–43.

Armer, and, indirectly, Coleman.[3] In his study of participants and non-participants in varsity football teams from twenty-four of the top thirty Iowa high school teams for the year 1962, Eidsmore reported that "the total grade-point average of the 592 players in all subjects carried was 2.523, whereas the grade-point average of their non-participating classmates was 2.085."[4] And, while the tone of Coleman's *The Adolescent Society* suggests that athletic participation is detrimental to educational pursuits, the data of the study suggest otherwise. An inspection of the appropriate tables reveals that in six of the ten midwestern schools surveyed athletes, at least "top athletes," had higher scholastic averages than the male student body as a whole.[5]

Without controls for relevant antecedent variables, it is possible that the grade-point differences reported by Eidsmore and Coleman are spurious. Evidence that such differences are not spurious comes from Schafer and Armer's study of 585 boys from two Middle Western high schools. In that study, controls were invoked for five relevant variables: year in school, measured intelligence, father's occupation, previous grade-point average, and curriculum. While these controls reduced an initial zero-order difference of .52 points on a four-point scale (athletes = 2.35, non-athletes = 1.83) to a fifth-order difference of .11 points (athletes = 2.35, non-athletes = 2.24), the direction of the data still showed a positive association between academic performance and athletic participation.[6]

A positive association between academic performance and educational expectations has been reported in several studies. Berdie and Hood, for example, reported correlations between these two variables averaging about .36.[7]

A second set of relevant studies are those concerned with athletic participation and peer group membership and with peer group membership and educational expectations. One of Coleman's clearest findings was the relationship between athletic participation and membership in the leading crowd. He writes: "The relationship is striking. Going out for football is related to being a member of the various elites more than any other variable in this study."[8] As to the social background of such elites, he reports that "there is a tendency toward control by the higher-educated, more middle-class students in the school, [although] this tendency is sharply diminished when such students become a small minority in the system."[9] Concerning the educational expectation of these elites, Coleman states that "the elites more often intend to go to college than do the students as a whole."[10]

That educational expectations of peer groups are positively associated with the expectations of the adolescent himself has been reported by Alexander and Campbell, Krauss, Rehberg, and others.[11]

[3] Russell M. Eidsmore, "High School Athletes Are Brighter," *School Activities* (November, 1963), pp. 75-77; Walter E. Shafer and J. Michael Armer, "On Scholarship and Interscholastic Athletics," *Trans-action* (in press) (a longer version will also appear in Gregory P. Stone [ed.], *Sport, Play, and Leisure* [Indianapolis: Bobbs-Merrill, in press]); and James S. Coleman, *The Adolescent Society* (Glencoe, Ill.: Free Press, 1961), especially pp. 252, 274, and 275.

[4] Eidsmore, *op. cit.* (see n. 3 above), p. 76.

[5] Coleman, *The Adolescent Society* (see n. 3 above).

[6] Schafer and Armer, *op. cit.* (see n. 3 above). GPA's based on all major courses over the high school career.

[7] Ralph F. Berdie and Albert B. Hood, *Trends in Post High School Plans Over an Eleven-Year Period* (Minneapolis: Student Counseling Bureau, University of Minnesota, 1963 [Cooperative Research Project No. 951]), pp. 56–57.

[8] Coleman, *The Adolescent Society* (see n. 3 above), p. 131.

[9] *Ibid.*, p. 109. [10] *Ibid.*, p. 115.

[11] C. Norman Alexander and Ernest Q. Campbell, "Peer Influences on Adolescent Educational Aspirations and Attainments," *American Sociological Review* (August, 1964), pp. 568–75; Irving Krauss, "Sources of Educational Aspirations among Working-Class Youth," *American Sociological Review* (December, 1964), pp. 867–79; and Richard A. Rehberg, *Adolescent Career Plans and the Impact*

Given these two sets of findings relating athletic participation to educational expectations via academic performance and membership in college-oriented leading crowds, we suggest that the proportion of athletes expressing expectations to enrol in a four-year college is greater than the proportion of non-athletes expressing such expectations.

Returning to the Schafer-Armer study, it is important to note their finding that athletic participation made a greater positive contribution to the grade-point averages of those athletes "less-disposed" toward high academic achievement (that is, blue-collar, low intelligence, non-college preparatory students) than it did to the averages of those athletes "more-disposed" toward high academic achievement (that is, white-collar, high intelligence, college-preparatory students).[12]

This finding raises the possibility of a similar interaction with respect to the expectation-participation relationship. We have suggested two possible linkages between expectations and participation, and there is reason to believe that each may lead to a stronger association between expectations and participation among those less disposed toward college than among those more disposed. First, if there is a positive association between expectations and participation, and if that association is mediated by higher academic performance resulting from participation, and if, as Schafer and Armer found, the performance-participation relationship is especially strong among boys less disposed toward high performance, we should expect a similar interactive association between expectations and participation. Second, if the expectation-participation relationship is mediated by membership in the leading crowds, an interactive relationship is also probable for the following reason. A more disposed boy, namely, one from the middle classes, has a good chance to associate and identify with other college-oriented boys by virtue of his status background or his current interests or performance. A less disposed boy, namely, one from the working class, however, is less likely to associate and identify with middle-class, college-oriented friends. But, if a working-class or other less disposed boy participates in sports, and especially if he is successful in such participation, then he is more likely than comparable non-athletes to enter the leading crowd or at least to associate with college-oriented students, thereby becoming exposed to college-attending norms. Thus, the difference in exposure to college-oriented peers is likely to be greater between less disposed athletes and less disposed non-athletes than between more disposed athletes and more disposed non-athletes. We therefore suggest that the strength of the positive relationship between educational expectations and athletic participation is greater among boys less disposed toward college than among those more disposed toward college.

DESIGN AND DATA

In the spring of 1965, questionnaire data were gathered from 785 senior males from three public and three parochial schools in three middle-sized Pennsylvania cities. Information for the independent variable, participation or non-participation in interscholastic sports, was secured with an item which requested each respondent to list all of his extracurricular activities for his senior year. The dependent variable, educational expectations, was measured with a fixed-response item which requested each respondent to indicate how far he actually *expected* to go in school.[13] The relevant cat-

of Chronic Economic Distress upon Adolescent Educational and Occupational Expectations and Aspirations (University Park: Pennsylvania State University, 1965 [Cooperative Research Project No. S-119]).

[12] Schafer and Armer, *op. cit.* (see n. 3 above).

[13] Expectations constitute the *realistic* level of a career orientation as distinguished from aspirations which constitute the *idealistic* level. For a further discussion of this conceptual distinction as well as a consideration of specific theoretical and empirical implications, see Richard A. Rehberg, "Adolescent

egories for this variable are: (1) expect to enrol in a four-year college, and (2) do not expect to enrol in a four-year college.

RESULTS

EXPECTATIONS AND PARTICIPATION: A ZERO-ORDER ANALYSIS

Table 1 presents the data for the zero-order relationship between athletic participation and educational expectations. Consistent with the first hypothesis, 62 per cent of the athletes expect to enrol in a four-year college compared with 45 per cent of the non-athletes. The strength of the association is indicated by a γ value of .28.

This finding does not eliminate the possibility, however, that the relationship is spuriously produced by one or more variables associated with both the independent and the dependent variables. Consequently, the second step in the analysis requires a control for potentially confounding variables.

EXPECTATIONS AND PARTICIPATION: N-ORDER PARTIAL ANALYSIS

Data were gathered for three variables which could theoretically produce a spurious relationship between expectations and participation. The first of those, social status, was measured with the Hollingshead Two Factor Index of Social Position.[14] A positive association between this variable and expectations has been reported consistently in a large number of studies.[15] The findings on the relationship of participation with status are not so consistent, however. Hollingshead implied no association when he wrote: "Athletics attracts boys from all classes in about the same proportion."[16] Schafer and Armer, however, reported a positive association between the two, with 33 per cent of white-collar boys participating compared with 22 per cent of blue-collar boys.[17] Temporally, we assume that this control variable precedes the independent variable in any kind of causal sequence.

Consistent with virtually all previous studies, expectations and status are positively associated ($\gamma = .50$). The association between status and participation, minimal as it may be, is indicated by a γ of .04, suggesting that for this sample the relationship is more like that reported by Hollingshead than that reported by Schafer and Armer. Partialling out status from the expectation-participation relationship with Rosenberg's test factor standardization technique has no effect on the magnitude of association (for example, both zero- and first-order gammas are .28).[18]

TABLE 1

PERCENTAGE OF RESPONDENTS REPORTING SPECIFIED EDUCATIONAL EXPECTATIONS, BY ATHLETIC PARTICIPATION (ZERO-ORDER ASSOCIATION)*

Athletic Participation	Educational Expectations (in Years)				Total	N
	16 or More	14	12 or Less	No Response		
Yes	62	20	17	1	100	284
No	45	30	24	1	100	490
No response	73	9	9	9	100	11
Total	52	26	21	1	100	785

* $\gamma = 28$

Career Aspirations and Expectation: An Evaluation of Two Contrary Stratification Hypotheses," *Pacific Sociological Review* (Fall, 1967).

[14] August B. Hollingshead, "The Two Factor Index of Social Position" (New Haven, Conn.: Yale University, 1957 [mimeographed]).

[15] The number of such studies is too long to enumerate. For a rather comprehensive bibliography of these studies, see William Kuvlesky and George W. Ohlendorf, *A Bibliography of Literature on Educational Orientations of Youth* (College Station: Texas A and M. University, 1965).

[16] August B. Hollingshead, *Elmtown's Youth* (New York: John Wiley & Sons, 1949), p. 194.

[17] Schafer and Armer, *op. cit.* (see n. 3 above).

[18] Leo A. Goodman and William H. Kruskal, "Measures of Association for Cross Classifications," *Journal of the American Statistical Association*

The second potentially confounding variable is academic performance, measured with rank in graduating class. Again, positive associations have been reported in previous studies between performance and participation and between performance and expectations. Consistent with previous research, educational expectations and academic performance are highly related ($\gamma =$ .73). However, performance and participation are virtually unrelated in this sample ($\gamma = -.02$).[19] As a result, the removal of the effects of academic performance leaves the magnitude of the relationship between expectations and participation virtually unchanged (first-order $\gamma = .29$).

The third control variable is parental educational encouragement, measured according to the respondent's indication of how frequently each parent encourages him to continue his education beyond high school.[20] Kahl, Bordua, Cohen, and Rehberg and Westby have reported moderately strong correlations between expectations and encouragement.[21] We are unaware, however, of any studies which have investigated the relationship between athletic participation and parental encouragement. As anticipated, expectations and encouragement are rather strongly related in this sample ($\gamma =$ .58). Encouragement and participation are moderately associated, with a γ of .28. Removing the effects of this control variable reduces the association between expectations and participation from a zero-order coefficient of .28 to a first-order coefficient of .22.[22]

Parental educational encouragement, then, is the only one of the three control variables which is more than minimally associated with both the independent and the dependent variables. Therefore, it is not surprising that the strength of the original relationship between expectations and participation as displayed in Table 2 is only slightly reduced in a third-order partial analysis, that is, from a zero-order gamma of .28 to a third-order γ of .24. This finding

(September, 1954), pp. 732–64; Morris Rosenberg, "Test Factor Standardization as a Method of Test Interpretation," Social Forces (October, 1962) pp. 53–61.

[19] One possible explanation for the discrepancy between our finding and that reported by Schafer and Armer is that their sample included adolescents who later dropped out of school. Dropouts, of course, tend to receive lower grades and participate less in interscholastic sports. The sample used for this study includes only students who were still enrolled during their senior year. Had this sample consisted of sophomores, as did Schafer and Armer's sample, we too probably would have found a positive association between academic performance and athletic participation.

[20] The question read: "Which ONE of the following statements is most true about continuing your education beyond high school?

"1. My father [mother] *never* urges me to continue my education.

"2. My father [mother] *sometimes* urges me to continue my education.

"3. My father [mother] *often* urges me to continue my education.

"4. My father [mother] *constantly* urges me to continue my education."

The question was asked separately for each parent. Ordinal scores of 1–4 were assigned to the response for each parent (1 = never and 4 = constantly), then added, and from the total the integer of one was subtracted, yielding a score range of 1–7. Low encouragement consists of scores of 1–4; high encouragement consists of scores of 5–7.

[21] Joseph A. Kahl, "Educational and Occupational Aspirations of 'Common-Man' Boys," *Harvard Educational Review* (Summer, 1953), pp. 186–203; David T. Bordua, "Educational Aspirations and Parental Stress on College," *Social Forces* (March, 1960), pp. 262–69; Elizabeth G. Cohen, "Parental Factors in Educational Mobility," *Sociology of Education* (Fall, 1965), pp. 404–25; Richard A. Rehberg and David L. Westby, "Parental Educational Encouragement, Occupation, Education, and Family Size: Artifactual or Independent Determinants of Adolescent Educational Expectations," *Social Forces* (March, 1967), pp. 362–74.

[22] The positive association between parental educational encouragement and athletic participation is analogous to the finding reported previously by the senior author of this paper that parental educational encouragement correlates positively not only with adolescent educational orientations but with occupational orientations as well. This suggests that educational encouragement represents a form of achievement socialization somewhat more diffuse than that pertinent to educational orientation only (see Rehberg and Westby, *op. cit.* [see n. 21 above]).

thus renders tenable the proposition that athletic participation exerts an independent positive effect on the educational expectations of high school boys.

THE EXPECTATION-PARTICIPATION RELATIONSHIP: INVARIANT OF INTERACTIVE?

It was suggested previously that the effect of athletic participation on educational expectations may be stronger for those boys who are less disposed toward college and weaker for those who are more disposed toward college. Since each of the three control variables—social status, academic performance, and parental encouragement—is an established correlate of educational expectations, each is used as a "dispositional" variable, with the high level indicating those boys who are more disposed toward college and the low level indicating those boys who are less disposed toward college.[28]

TABLE 2

PERCENTAGE OF RESPONDENTS REPORTING SPECIFIED EDUCATIONAL EXPECTATIONS BY ATHLETIC PARTICIPATION, WITH SOCIAL STATUS, PARENTAL EDUCATIONAL ENCOURAGEMENT, AND ACADEMIC PERFORMANCE CONTROLLED (THIRD-ORDER ASSOCIATION, STANDARDIZED TABLE)*

Athletic Participation	Educational Expectations (in Years)				Total	N
	16 or More	14	12 or Less	No Response		
Yes	61	19	18	1	99	284
No ..	46	30	23	1	100	490
No response ..	70	20	9	1	100	11
Total .	52	26	21	1	100	785

* γ = 24.

TABLE 3

INTERACTION EFFECTS OF EDUCATIONAL EXPECTATIONS AND ATHLETIC PARTICIPATION: PERCENTAGE OF RESPONDENTS REPORTING EDUCATIONAL EXPECTATIONS TO FOUR OR MORE YEARS OF COLLEGE (FIRST-ORDER RELATIONSHIPS)

Disposition Variable		Athletic Participation				γ*
Name	Level	Yes		No		
		%	N	%	N	
Social status. ..	High†	78	90	67	144	.27
	Low	55	194	36	346	.38
Parental encouragement..	High	68	208	56	298	25
	Low	45	66	26	164	.40
Academic performance....	High	85	116	78	205	.26
	Low	46	164	21	280	51

* Because of the attrition of cell N's in tabular partialling, these γ values have been computed for a 2 × 2 table, i.e., athletic participation–non-participation crossed with four-year college expectations–non-four-year college expectations. The "no responses" have been omitted from the computations.

† This level refers to the middle status category, but for consistency of nomenclature the designation "high" is employed.

Table 3 indicates that the magnitude of the relationship between expectations and participation is indeed stronger in the less disposed levels of each of the three control variables. Thus, the γ value for the expectation-participation relationship is .38 for those of low status and .27 for those of high status; .40 for those reporting low encouragement and .25 for those reporting

[28] For consistency of nomenclature, middle status respondents are referred to as "high" status respondents.

high encouragement; and .51 for those of low academic performance and .26 for those of high performance.

An interaction does appear to exist, then, between expectations and participation with respect to the dispositional variables. That this interaction persists at the third-order level is evident from Table 4. As the appropriate γ's excerpted from Table 4 and displayed in Table 5 indicate, there is a continuing tendency for the magnitude of the association between the dependent and the independent variables to be stronger in the less disposed levels of each of the three control variables than in the more disposed levels.

Two additional aspects of these interactions merit comment. First, the positive association between expectations and participation all but vanishes in the three conditions where at least two of the three dispositional variables are high. To some extent, this may be attributable to a "ceiling" effect. Since the percentage of adolescents expressing college expectations in these categories is already very high (75–96 per cent), participation in sports probably adds little or nothing to the determination of educational goals.

Second, the interaction effect appears to be cumulative. That is, the degree of positive association between expectations and

TABLE 4

INTERACTION EFFECTS OF EDUCATIONAL EXPECTATIONS AND ATHLETIC PARTICIPATION: PERCENTAGE OF RESPONDENTS REPORTING EDUCATIONAL EXPECTATIONS TO FOUR OR MORE YEARS OF COLLEGE (THIRD-ORDER RELATIONSHIPS)

Disposition Variables			Athletic Participation				γ*
			Yes		No		
Social Status	Parental Encouragement	Academic Performance	%	N	%	N	
High	High	High	95	40	96	57	– 18
		Low	68	31	49	45	.37
	Low	High	75	8	75	16	.00
		Low	67	6	11	18	.88
Low	High	High	85	52	84	73	.04
		Low	45	82	25	121	.44
	Low	High	69	13	50	46	.38
		Low	26	38	7	82	.64

* Computed with 2 × 2 cross-classification, i.e., four years of college–less than four years of college, athletic participation–non-athletic participation, to enhance statistical reliability.

TABLE 5

SELECTED EXPECTATION-PARTICIPATION GAMMAS: HIGH AND LOW LEVELS OF THREE CONTROL VARIABLES (THIRD-ORDER PARTIALS)

HiSES, HiPEE,	HiAcPer. =	–.18	LoSES, HiAcPer.	HiPEE,	= 04
	LoAcPer. =	.37		LoPEE,	= .38
HiSES, LoPEE,	HiAcPer. =	.00	LoSES, LoAcPer.	HiPEE,	= .44
	LoAcPer. =	.88		LoPEE,	= .64

participation is greater for boys less disposed on three than on two, on two than on one, and on one than on none of the three dispositional variables. Thus, the mean weighted γ value for the expectation-participation relationship is .64 for those adolescents less disposed on three of the control variables, .46 for those less disposed on two of the control variables, .15 for those less disposed on one of the control variables, and — .18 for those less disposed on none of the three control variables.

In brief, the data suggest that the effect of athletic participation on educational expectations is greater among boys less disposed toward college and weaker among boys more disposed toward college.

SUMMARY AND CONCLUSIONS

These data have shown that a greater proportion of athletes than non-athletes expect to enrol in a four-year college, even when the potentially confounding variables of status, academic performance, and parental encouragement are controlled. This relationship is especially marked among boys not otherwise disposed toward college, that is, those from working-class homes, those in the lower half of their graduating class, and those with low parental encouragement to go to college.

Since the sample of this study is nonrandom and all extraneous variables have not been controlled, conclusions about the generality and causal direction of the relationship must be drawn with caution. We suggest, however, that the positive relationship between educational expectations and athletic participation is probably not spurious, that is, not produced by "selection" variables but, rather, is "true," that is, reflects the socialization consequences of participation in interscholastic sports.

Earlier in the paper, two processes were identified that might mediate between expectations and participation and thereby account for the hypothesized socialization consequences. The first, higher academic performances resulting from participation in sports, does not appear to be operative in the data reported herein, since there is virtually no difference in class rank between athletes and non-athletes. This linkage cannot be entirely dismissed, however, since dropouts who are non-athletes and are disproportionately low achievers are excluded from the sample.

The second suggested mediating linkage is involvement in the leading crowd. Since we have no data on peer associations, it remains plausible that athletes more often expect to enrol in college because, compared with others, they more often enter the leading crowd and thereby become subjected to its achievement influences. This linkage also remains a plausible interpretation of the stronger relationship between expectations and participation among less disposed boys, since, as argued earlier, they stand to gain the most from exposure to the achievement influences of the leading crowd.

Further research should expore the two preceding interpretations as well as several others which might operate independently or simultaneously. First, it is possible that in sports the emphasis on hard work, achievement, self-improvement, present preparation for future competition, persistence, etc., carries over from the playing field, thereby increasing motivation and aspirations in other areas, including post-high-school career orientations. Second, social-psychological theory suggests that level of aspiration is partly determined by self-esteem and that self-esteem results partly from positive appraisals from significant others. It is likely, then, that the prestige and popularity enjoyed by athletes (especially successful athletes) enhance their self-esteem, which in turn results in higher career goals. Third, because of their increased visibility in both the school and the community, it is plausible that athletes receive a quantity and quality of career counseling and encouragement superior to that received by non-athletes.[24]

[24] For a discussion relevant to the increased "visibility" of athletes, see Coleman, *The Adolescent Society* (see n. 3 above).

Fourth, some athletes who otherwise would not go to college probably desire to go primarily to continue their athletic careers. Fifth, some athletes who otherwise would not enrol in college may do so essentially because of athletic scholarships.

One or more of these alternative mediating linkages may not only account for the over-all relationship between expectations and participation but also for the interactive relationship alluded to earlier. For example, it might be that all athletes receive more college counseling, encouragement, and sponsorship but that this is especially true for athletes from working-class strata.

To the extent that future research substantiates the relationships reported here, interscholastic athletics will have been shown to be one channel for upward mobility, insofar as mobility is contingent on a college education. Perhaps this paper will stimulate further inquiry and that such studies will succeed in identifying and confirming those variables which serve to link educational expectations with participation in interscholastic sports.[25]

STATE UNIVERSITY OF NEW YORK
AT BINGHAMTON
AND
UNIVERSITY OF OREGON

[25] The authors currently are engaged in a four-year longitudinal panel project involving 3,200 adolescents. One of the major objectives of that research is the investigation of the relationship between adolescent ambition and participation in interscholastic athletics.

The Social Psychology of Privacy

Barry Schwartz

ABSTRACT

Patterns of interaction in any social system are accompanied by counter-patterns of withdrawal, one highly institutionalized (but unexplored) mode of which is privacy. There exists a threshold beyond which social contact becomes irritating for all parties; therefore, some provision for removing oneself from interaction and observation must be built into every establishment. Such provisions subserve the action patterns for which they provide intermission. Privacy, which is bought and sold in social establishments, reflects and affirms status divisions, and permits "localized" deviation which is invisible to the group as a whole. Privacy thereby insulates against dysfunctional knowledge. Rules governing entrance into and exit from privacy are most clearly articulated on the level of the establishment and are reflected in its physical structure and in proprieties concerning the uses of space, doors, windows, drawers, etc. The report ends with a discussion of identity and its relation to the freedoms of engagement and disengagement.

Patterns of coming and staying together imply counterpatterns[1] of withdrawal and disaffiliation which, as modalities of action, are worthy of analysis in their own right. Simmel makes the identical point in his essay, "Brücke und Tür": "Usually we only perceive as bound that which we have first isolated in some way. If things are to be joined they must first be separated. Practically as well as logically it would be nonsense to speak of binding that which is not separate in its own sense. . . . Directly as well as symbolically, bodily as well as spiritually, we are continually separating our bonds and binding our separations."[2] Simmel, however, ignores the question of how separation subserves integration—of how men are bound by taking leave of one another as well as by their coming together. One sociologically relevant approach to this problem is through the analysis of privacy, which is a highly institutionalized mode of withdrawal.

THE GROUP-PRESERVING FUNCTIONS OF PRIVACY

Withdrawal into privacy is often a means of making life with an unbearable (or sporadically unbearable) person possible. If the distraction and relief of privacy were not available in such a case, the relationship would have to be terminated if conflict were to be avoided. Excessive contact is the condition under which Freud's principle of ambivalence most clearly exercises itself, when intimacy is most likely to produce open hostility as well as affection.[3] Issue must therefore be taken with Homans' proposition, "Persons who interact frequently with one another tend to like one another" (providing the relationship is not obligatory).[4] The statement holds generally, but misses the essential point that there

[1] The initiation of a social contact generally entails a withdrawal from a preceding one. Therefore, men may withdraw into new social circles as well as into seclusion. In this particular sense it would be most exact to employ the term "contact-withdrawal," as opposed to a single term for engagement and another for disengagement. However, this distinction does not apply to movements into privacy.

[2] Georg Simmel, "Brücke und Tür," in *Brücke und Tür* (Stuttgart: K. F. Koehler, 1957), p. 1.

[3] Sigmund Freud, *Group Psychology and the Analysis of the Ego* (New York: Bantam Books, Inc., 1960), pp. 41–42.

[4] George C. Homans, *The Human Group* (New York: Harcourt, Brace & Co., 1950), p. 111.

is a threshold beyond which interaction is unendurable for both parties. It is because people frequently take leave of one another that the interaction-liking proposition maintains itself.

Guarantees of privacy, that is, rules as to who may and who may not observe or reveal information about whom, must be established in any stable social system. If these assurances do not prevail—if there is normlessness with respect to privacy—every withdrawal from visibility may be accompanied by a measure of espionage, for without rules to the contrary persons are naturally given to intrude upon invisibility. "Secrecy sets barriers between men," writes Simmel, "but at the same time offers the seductive temptations to break through the barriers."[5] Such an inclination is embodied in the spy, the Peeping Tom, the eavesdropper, and the like, who have become its symbols.

"Surveillance" is the term which is generally applied to institutionalized intrusions into privacy. And social systems are characterizable in terms of the tension that exists between surveillant and anti-surveillant modes. Much of our literature on the anti-utopia, for example, George Orwell's *1984*, which depicts the dis-eases of excessive surveillance, is directed against the former mode. But dangers of internal disorder reside in unconditional guarantees of invisibility against which many administrative arms of justice have aligned themselves. On the other hand, surveillance may itself create the disorder which it seeks to prevent. Where there are few structural provisions for privacy, social withdrawal is equivalent to "hiding." For Simmel, "This is the crudest and, externally, most radical manner of concealment."[6] Where privacy is prohibited, man can only imagine separateness as an act of stealth.[7]

[5] Georg Simmel, "The Secret and the Secret Society," in Kurt Wolff (ed.), *The Sociology of Georg Simmel* (New York: Free Press, 1964), p. 334.

[6] *Ibid.*, p. 364.

[7] *Ibid.*

Since some provisions for taking leave of one another and for removing oneself from social observation are built into every establishment, an individual withdrawal into privacy and the allowance of such a withdrawal by other parties reflects and maintains the code that both sides adhere to. Leave taking, then, contains as many ritualistic demands as the act of coming together. Durkheim, like Homans, is not altogether correct in his insistence that the periodic gatherings of the group are its main sources of unity.[8] After a certain point the presence of others becomes irritating and leave taking, which is a mutual agreement to part company, is no less a binding agent than the ritual of meeting. In both cases individual needs (for gregariousness and isolation) are expressed and fulfilled in collectively indorsed manners. The dissociation ritual presupposes (and sustains) the social relation. Rules governing privacy, then, if accepted by all parties, constitute a common bond providing for periodic suspensions of interaction.

If privacy presupposes the existence of established social relations its employment may be considered as an index of solidarity. Weak social relationships, or relationships in the formative stage, cannot endure the strain of dissociation. By contrast, members of a stable social structure feel that it is not endangered by the maintenance of interpersonal boundaries. This point is of course well reflected in the Frostian dictum, "Good fences make good neighbors."

PRIVACY HELPS MAINTAIN STATUS DIVISIONS

It is also well known that privacy both reflects and helps to maintain the status divisions of a group. In the armed forces, for example, the non-commissioned officer may reside in the same building as the dormitoried enlisted man but he will maintain a separate room. The officer of higher

[8] Émile Durkheim, *The Elementary Forms of the Religious Life* (Glencoe, Ill.: Free Press, 1947), pp. 214–19.

rank will live apart from the non-commissioned, but on the same base, often in an apartment building; but officers of highest status are more likely to have private quarters away from the military establishment.

In organizational life the privacy of the upper rank is insured structurally; it is necessary to proceed through the lieutenant stratum if the top level is to be reached. In contrast, the lower rank, enjoying less control over those who may have access to it, find their privacy more easily invaded. Even in domestic life persons of the lower stratum lack "the butler" by means of whom the rich exercise tight control over their accessibility to others.

Privacy is an object of exchange. It is bought and sold in hospitals, transportation facilities, hotels, theaters, and, most conspicuously, in public restrooms where a dime will purchase a toilet, and a quarter, a toilet, sink and mirror. In some public lavatories a free toilet is provided—without a door.

Privacy has always been a luxury. Essayist Phyllis McGinley writes: "The poor might have to huddle together in cities for need's sake, and the frontiersman cling to his neighbor for the sake of protection. But in each civilization, as it advanced, those who could afford it chose the luxury of a withdrawing place. Egyptians planned vine-hung gardens, the Greeks had their porticos and seaside villas, the Romans put enclosures around their patios. . . . Privacy was considered as worth striving for as hall-marked silver or linen sheets for one's bed."[9] In this same respect Goffman comments upon the lack of front and back region differentiation in contemporary lower-class residences.[10]

The ability to invade privacy is also reflective of status. The physician's high social rank, for instance, derives perhaps not only from his technical skill but also from his authority to ignore barriers of privacy. However, this prerogative is not limited to those of high status. We must not forget the "non-person" who lacks the ability to challenge the selfhood of his superiors. Goffman cites Mrs. Frances Trollope: "I had indeed frequent opportunities of observing this habitual indifference to the presence of their slaves. They talk to them, of their condition, of their faculties, of their conduct exactly as if they were incapable of hearing. . . . A young lady displaying modesty before white gentlemen was found lacing her stays with the most perfect composure before a Negro footman."[11] In general society the assumption of the social invisibility of another is looked upon as indecency, that is, as a failure to erect a barrier of privacy between self and other under prescribed conditions.

The general rule that is deducible from all of this is that outside of the kinship group an extreme rank is conferred upon those for whom privacy shields are voluntarily removed. The prestige afforded the physician is exaggerated in order to protect the self from the shame which ordinarily accompanies a revelation of the body to a stranger, particularly if he is of the opposite sex. Likewise, the de-statusing of the servant is necessary if he is to be utilized for purposes of bathing, dressing, etc.

Persons of either high or low rank who have access to the private concerns of their clients are subject to definite obligations regarding both the manner in which secret knowledge is to be obtained and, most importantly, the way in which it is treated once it has been obtained. Explicit or implicit guarantees of confidentiality neutralize the transfer of power which would otherwise accompany the bestowal of private information. Both the possession of an extreme rank and the assurance of confidentiality thus legitimize the "need to know" and the intrusions which it makes possible.

[9] Phyllis McGinley, "A Lost Privilege," in *Province of the Heart* (New York: Viking Press, 1959), p. 56.

[10] Erving Goffman, *The Presentation of Self in Everyday Life* (Edinburgh: University of Edinburgh, 1958), p. 123.

[11] *Ibid.*, p. 95.

PRIVACY AND DEVIATION

Up to this point we have tried to indicate privacy's stabilizing effect upon two dimensions of social order. Withdrawal subserves horizontal order by providing a release from social relations when they have become sufficiently intense as to be irritating. Privacy is also a scarce social commodity; as such, its possession reflects and clarifies status divisions, thus dramatizing (and thereby stabilizing) the vertical order. But we must recognize that privacy also opens up opportunities for such forms of deviance as might undermine its stabilizing effects. However, privacy admits of *invisible* transgression and therefore serves to maintain intact those rules which would be subverted by the public disobedience that might occur in its absence.

Moore and Tumin, in their discussion of the function of ignorance, stated: "All social groups . . . require some quotient of ignorance to preserve esprit de corps."[12] And Goffman has made it clear that every establishment provides "involvement shields" for its members wherein "role releases" may take place, particularly deviant ones.[13] As Merton puts it:

> Resistance to full visibility of one's behavior appears, rather, to result from structural properties of group life. Some measure of leeway in conforming to role expectations is presupposed in all groups. To have to meet the strict requirements if a role at all times, without some degree of deviation, is to experience insufficient allowances for individual differences in capacity and training and for situational exigencies which make strict conformity extremely difficult. This is one of the sources of what has been elsewhere noted in this book as socially patterned, or even institutionalized, evasions of institutional rules.[14]

Thus, each group has its own "band of institutionalized evasion" which expands and contracts as conditions change. Rose L. Coser, in this connection, has considered observability in terms of the social status of the observer. She indicates that persons of high rank tend to voluntarily deprive themselves of visibility by signaling their intrusion with a prior announcement.[15] The deviation band, then, is normally condoned by both the upper and lower strata.

Moore and Tumin stress the importance of preventing deviation from being known to the group as a whole.[16] No doubt, a publication of all of the sins, crimes, and errors that take place in a social unit would jeopardize its stability. The preoccupation of the press with sensational deviations from norms might be considered from this point of view. Similarly, the more one person involves himself with another on an emotional basis the more both will need private facilities to conceal nasty habits and self-defaming information from each other. If the child, for instance, became suddenly aware of all the non-public performances of his father, and if the latter were aware of all the perversions that are privately enacted by his offspring, a father-son relationship characterized by mutual admiration would be impossible. This same point is illustrated in well-adjusted marriages which depend not only upon mutually acceptable role playing but also upon the ability of both

[12] Wilbur E. Moore and Melvin M. Tumin, "Some Social Functions of Ignorance," *American Sociological Review*, XIV (December, 1949), 792. See also Barney Glaser and Anselm Strauss, "Awareness Contexts and Social Interaction," *American Sociological Review*, XXIX (October, 1964), 669–79, in which social interaction is discussed in terms of "what each interactant in a situation knows about the identity of the other and his own identity in the eyes of the other" (p. 670). A change in "awareness context" accompanies acquisitions of knowledge, provisions of false knowledge, concealment of information, etc.

[13] The "involvement shield" and Everett C. Hughes' concept of "role release" are elaborated in Erving Goffman's *Behavior in Public Places* (New York: Free Press, 1963), pp. 38–39.

[14] Robert K. Merton, *Social Theory and Social Structure* (New York: Free Press, 1964), p. 343.

[15] Rose L. Coser, "Insulation from Observability and Types of Social Conformity," *American Sociological Review*, XXVI (February, 1961), 28–39.

[16] Moore and Tumin, *op. cit.* (see n. 12 above), 793.

parties to conceal "indecent" performances. This presupposes a modicum of physical distance between husband and wife. Simmel, in addition, adds that a complete abandon of one's self-information to another "paralyzes the vitality of relations and lets their continuation really appear pointless."[17]

Privacy enables secret consumption. We observe, for example, the adolescent practices of smoking or drinking in their locked rooms. Similarly, "women may leave *Saturday Evening Post* on their living room table but keep a copy of *True Romance* ('something the cleaning woman must have left around') concealed in their bedroom."[18] However, some modes of secret consumption have come into the public light. The erotic "girlie magazines," for example, no longer need be employed privately by the middle-class male since the advent of the *Playboy* magazine. As some activities emerge from secrecy others go underground. Thus, the person who nowadays finds pleasure in the Bible will most likely partake of it in private rather than in a public place or conveyance. These new proprieties are perhaps specific instances of a general rule set down by Simmel, that "what is originally open becomes secret, and what was originally concealed throws off its mystery. Thus we might arrive at the paradoxical idea that, under otherwise like circumstances, human associations require a definite ratio of secrecy which merely changes its objects; letting go of one it seizes another, and in the course of this exchange it keeps its quantum unvaried."[19]

Incidentally, just as the person must employ proper language for the public situations in which he finds himself, he is required to maintain an appropriate body language as well. Differing postures must be assumed in his public encounters. But public postures do not exhaust the many positions of which the human body is capable. Anyone who has maintained a single position over a long period of time knows that the body demands consistent postural variation if it is to remain comfortable and capable of good role performance. Privacy enables the person to enact a variety of non-public postures and thus prepares him physically for public life.

It should be stressed that the absence of visibility does not guarantee privacy. The hypertrophied super-ego certainly makes impossible the use of solitude for deviant objectives. The person who is constantly in view of an internalized father, mother, or God leads a different kind of private life than those possessed by a less demanding conscience. This reveals an interesting paradox. Privacy surely provides for some measure of autonomy, of freedom from public expectation; but as Durkheim so persistently reminded us, the consequences of leaving the general normative order are moral instability and social rootlessness. (It is for this reason that secret societies compensate for the moral anarchy inherent in pure autonomy by means of ritual.)[20] Is it then possible that through privacy the ego escapes the dominion of the public order only to subordinate itself to a new authority: the super-ego? In some measure this is certainly the case, but one may also venture the suggestion that the super-ego, like the social structure whose demands it incorporates, has its own "band of institutionalized evasion." The super-ego cannot be totally unyielding, for if every deviation of the ego called into play its punitive reaction the consequences for the self would be most severe.

PRIVACY AND ESTABLISHMENTS

It was earlier noted that rules or guarantees of privacy subserve horizontal and vertical order. Such rules are embodied in

[17] Simmel, "The Secret and the Secret Society," *op. cit* (see n. 5 above), p. 329.

[18] Goffman, *The Presentation of Self in Everyday Life*, *op. cit.* (see n. 10 above), p. 26. Needless to say, many instances of the employment of privacy for "secret production" could be given.

[19] Simmel, "The Secret and the Secret Society," *op. cit.* (see n. 5 above), pp. 335–36.

[20] *Ibid.*, pp. 360–61.

the physical structure of social establishments. Lindesmith and Strauss, for instance, have noted that proprieties concerning interpersonal contact and withdrawal are institutionalized in the architecture of buildings by means of a series of concentric circles. Specific regulations permit or forbid entry into the various parts of this structure, with a particular view to protecting the sacred "inner circle."[21] A more specific instance of the physical institutionalization of norms is found in the case of the bathroom, whose variation in size and design is limited by the requirement that body cleansing and elimination be performed privately.[22] This norm is reinforced by the architectural arrangements in which it is incorporated. The fact that the bathroom is only built for one literally guarantees that the performances which it accommodates will be solos. However, this normative-physical restriction admits of more complicated, secondary proprieties. Bossard and Boll write:

> The fact that the middle-class family rises almost together, and has few bathrooms, has resulted in a problem for it, which has been resolved by a very narrowly prescribed ritual for many of them—a bathroom ritual. They have developed set rules and regulations which define who goes first (according to who must leave the house first), how long one may stay in, what are the penalties for overtime, and under what conditions there may be a certain overlapping of personnel [23]

The very physical arrangement of social establishments thus opens and shuts off certain possibilities for interaction and withdrawal and creates a background of sometimes complex ritual in support of a foreground of necessary proprieties. Needless to say, the form taken by such ritual is always subject to modification by architectural means.

Charles Madge also urges the architect to take explicit account in his designs of the ambivalences of social life. Men, for example, are given to both withdrawal and self-display. This duality, notes Madge, requires an "intermediate area" in housing projects, such as a backyard or garden which separates the home or inner circle

[21] Alfred R. Lindesmith and Anselm L. Strauss, *Social Psychology* (New York: Henry Holt & Co., 1956), p. 435. However, in an interesting statement, McGinley announces the death of the very idea of the "inner circle": "It isn't considered sporting to object to being a goldfish. On the same public plan we build our dwelling places Where, in many a modern house, can one hide? (And every being, cat, dog, parakeet, or man, wants a hermitage now and then) We discard partitions and put up dividers. Utility rooms take the place of parlors. Picture windows look not onto seas or mountains or even shrubberies but into the picture windows of the neighbors. Hedges come down, gardens go unwalled; and we have nearly forgotten that the inventor of that door which first shut against intrusion was as much mankind's benefactor as he who discovered fire. I suspect that, in a majority of the bungalows sprouting across the country like toadstools after a rain, the only apartment left for a citadel is the bathroom" (*op. cit.* [see n. 9 above], pp. 55–56).

In contrast, Edward T Hall observes· "Public and private buildings in Germany often have double doors for soundproofing, as do many hotel rooms. In addition, the door is taken very seriously by Germans. Those Germans who come to America feel that our doors are flimsy and light The meanings of the open door and the closed door are quite different in the two countries. In offices, Americans keep doors open; Germans keep doors closed In Germany, the closed door does not mean that the man behind it wants to be alone or undisturbed, or that he is doing something he doesn't want someone else to see It's simply that Germans think that open doors are sloppy and disorderly. To close the door preserves the integrity of the room and provides a protective boundary between people Otherwise, they get too involved with each other. One of my German subjects commented, 'If our family hadn't had doors, we would have had to change our way of life. Without doors we would have had many, many more fights. . . . When you can't talk, you retreat behind a door. . . . If there hadn't been doors, I would always have been within reach of my mother' " (*The Hidden Dimension* [Garden City: Doubleday & Co., 1966], p. 127. For a discussion of the norms regulating privacy among the English, French, Arab, and Japanese, see pp. 129–53).

[22] Alexander Kira, *The Bathroom* (New York: Bantam Books, Inc., 1967), pp. 178–84. The requirement of complete privacy for personal hygiene is only a recent phenomenon (see pp. 1–8).

[23] J. H. S. Bossard and E. S. Boll, *Ritual in Family Living* (Philadelphia: University of Pennsyl-

from the "common green."[24] But it is one thing to so divide our physical living space as to insure ourselves of interactional options; it is another to regulate the interactional patterns that the division of space imposes upon us. The latter task is most efficiently met by the door.

Doors.—McGinley has referred to the door as a human event of significance equal to the discovery of fire.[25] The door must surely have had its origin among those whose sense of selfhood had already developed to the extent that they could feel the oppression of others and experience the need for protection against their presence. Continued use of the door very probably heightened that feeling of separateness to which it owed its creation. Doors, therefore, not only stimulate one's sense of self-integrity, they are required precisely because one has such a sense.

The very act of placing a barrier between oneself and others is self-defining, for withdrawal entails a separation from a role and, tacitly, from an identity imposed upon oneself by others via that role. Therefore, to waive the protection of the door is to forsake that sense of individuality which it guarantees. As Simmel points out, some measure of de-selfing is characteristic of everything social.[26]

I would like now to discuss various kinds of doors, including horizontal sliding doors (drawers) and transparent doors (windows). I shall also treat of walls, as relative impermeable interpersonal barriers, in contrast to doors, which are selectively permeable.

Doors provide boundaries between ourselves (i.e., our property, behavior, and appearance) and others. Violation of such boundaries imply a violation of selfhood. Trespassing or housebreaking, for example, is unbearable for some not only because of the property damage that might result but also because they represent proof that the self has lost control of its audience: it can no longer regulate who may and who may not have access to the property and information that index its depths.[27] The victim of a Peeping Tom is thus outraged not only at having been observed naked but also for having lost control of the number and type of people who may possess information about her body. To prove this we note that no nakedness need be observed to make Peeping Tomism intolerable.

"Alone, the visual feeling of the window," writes Simmel, "goes almost exclusively from inward to outward: it is there for looking out, not for seeing in."[28] This interdiction insures that the inhabitants of an establishment may have the outside world at their visual disposal, and at the same time it provides for control over their

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vania Press, 1950), pp 113–14 (cited by Kira, *op cit.* [see n. 22 above], pp. 177–78).

[24] Charles Madge, "Private and Public Places," *Human Relations,* III (1950), 187–99. F. S. Chapin (in "Some Housing Factors Related to Mental Hygiene," *Journal of Social Issues,* VII [1951], 165) emphasizes that the need for relief from irritating public contact must be consciously and carefully met by the architect. On the other hand, Kira writes: "There are problems which cannot be resolved by architects and industrial designers alone, however; they also pose a challenge to the social scientists and to the medical and public health professions. This is an area in which the stakes are enormous and in which little or no direct work has been done." (*Op. cit.* [see n. 22 above], p. 192.)

[25] See n. 21 above.

[26] Simmel, "The Secret and the Secret Society," *op. cit.* (see n. 5 above), p. 373.

[27] The law recognizes the psychological effect of such criminal acts and provides additional penal sanction for them. Wolfgang and Sellin report that "the chain store is more outraged by theft from a warehouse, where the offender has no business, than from the store where his presence is legal during store hours." Moreover, "the victim of a house burglary is usually very disturbed by the fact that the offender had the effrontery to enter the house illegally. . . . For these and similar reasons, breaking and entering as well as burglary carry more severe sanctions in the law" (Marvin E. Wolfgang and Thorsten Sellin, *The Measurement of Delinquency* [New York: John Wiley & Sons, 1964], pp. 219–20).

[28] Simmel, "Brücke und Tür," *op. cit.* (see n. 2 above), p. 5.

accessibility to this world. But, whereas the shade or curtain may be employed to regulate accessibility between the private and public spheres of action, situational proprieties are depended upon for protection in public. One such norm is that of "civil inattention" which has been elaborated by Goffman.[29]

Unlike the window, "the door with an in and out announces an entire distinction of intention."[30] There must be very clear rules as to who may open what doors at what times and under what conditions. The front and back doors are normally the only doors that any member of a family may enter at any time and under any circumstances. A parent may enter a child's room at any time and may inspect and replenish drawers, but visiting friends may not. But the parent must learn that some private doors (drawers) may not be opened (although they may be to friends); if they are, new receptacles for ego-indexes will be found, for example, the area between mattress and spring. The child, however, must never inspect the contents of the drawers of his parents nor enter their room at night. Thus the right of intrusion is seen to be an essential element of authority, whose legitimacy is affected by the degree to which it is exercised. Correspondingly, authority is dependent upon immunity against intrusion. Cooley notes that "authority, especially if it covers intrinsic personal weakness, has always a tendency to surround itself with forms and artificial mystery, whose object is to prevent familiar contact and so give the imagination a chance to idealize . . . self concealment serves, among other purposes, that of preserving a sort of ascendency over the unsophisticated."[31] In this same connection, Riesman writes:

> As compared with the one room house of the peasant or the "long house" of many primitive tribes, he (the inner directed child) grows up within walls that are physical symbols of the privacy of parental dominance. Walls separate parents from children, offices from home, and make it hard if not impossible for the child to criticize the parents' injunctions by an "undress" view of the parents or of other parents. What the parents say becomes more real in many cases than what they do. . . .[32]

Moreover, it is possible to map personal relations in terms of mutual expectations regarding intrusion. The invasion of various degrees of privacy may be a duty, a privilege, or a transgression, depending upon the nature of the interpersonal bond. And, clearly, expectations regarding such impositions may not be mutually agreed to.

Parental obligations concerning the care of a child override the child's rights to seclusion and place him in a position of social nakedness wherein he has no control over his appearance to others. However, to be subject to limitless intrusion is to exist in a state of dishonor, as implied in the rule against "coming too close." This point is made in Simmel's discussion of "discretion" as a quality which the person-in-private has a right to demand of another who is in a position to invade his seclusion.[33] Compro-

[29] Goffman, *Behavior in Public Places*, *op. cit.* (see n. 13 above), pp. 83–88.

[30] Simmel, "Brücke und Tür," *op. cit.* (see n. 2 above), p. 4.

[31] Charles Horton Cooley, *Human Nature and the Social Order* (New York: Schocken Books, Inc., 1964), p. 351.

[32] David Riesman, *The Lonely Crowd* (Garden City: Doubleday & Co., 1953), p. 61. Another characteriologist, William H. Whyte, suggests that "doors inside houses . . . marked the birth of the middle class" (*The Organization Man* [Garden City, N.Y.: Doubleday & Co., 1956], p. 389).

[33] Simmel, "The Secret and the Secret Society," *op. cit.* (see n. 5 above), pp. 320–24. Similarly, Erving Goffman writes, "There is an inescapable opposition between showing a desire to include an individual and showing respect for his privacy. As an implication of this dilemma, we must see that social intercourse involves a constant dialectic between presentational rituals and avoidance rituals. A peculiar tension must be maintained, for these opposing requirements of conduct must somehow be held apart from one another and yet realized together in the same interaction; the gestures which carry an actor to a recipient must also signify that things will not be carried too far" ("The Nature of Deference and Demeanor," *American Anthropologist*, LVIII [June, 1956], 488).

mises between child and parent are therefore necessary and generally employed by the manipulation of the door. For example, the bedroom door may be kept half open while the child sleeps, its position symbolic of the parents' respect for the youngster's selfhood. Furthermore, a general temporal pattern might emerge if a large number of cases were examined. During infancy the door to self is generally fully open;[34] it closes perhaps halfway as a recognition of self development during childhood, it shuts but is left ajar at pre-puberty, and closes entirely—and perhaps even locks—at the pubertal and adolescent stages when meditation, grooming, and body examination become imperative. Parents at this time are often fully denied the spectatorship to which they may feel entitled and are kept at a distance by means of the privacy that a locked door insures.

There are also certain situations wherein husband and wife must remain separate from one another. A spouse, for example, must generally knock before entering a bathroom if the other is occupying it. This is a token of deference not to nudity but to the right of the other party to determine the way he or she wishes to present the self to the other. This rule insures that the self and its appearance will remain a controllable factor, independent of the whims of others, and it contributes to self-consciousness as well. This is seen most clearly in total institutions like the armed forces where open rows of toilets are used first with some measure of mortification and later with a complete absence of consciousness of self. In such doorless worlds we find a blurring of the distinction between "front and back regions," between those quarters where the self is put on and taken off and those in which it is presented.[35] In conventional society those who confuse these two areas are charged with vulgarity.

In contrast to the door, the wall symbolizes "separation" rather than "separateness" and denies the possibility of the encounter and withdrawal of social exchange. It strips away that element of freedom which is so clearly embodied in the door. "It is essential," notes Simmel, "that a person be able to set boundaries for himself, but freely, so that he can raise the boundaries again and remove himself from them."[36] In privacy, continues Simmel, "A piece of space is bound with himself and he is separated from the entire world."[37] But in enforced isolation man is bound *to* space. While the door separates outside from inside, the wall annihilates the outside. The door closes out; the wall encloses. Yet doors are converted into walls routinely, as is seen in the popular practice of "sending a child to his room" for misdeeds and the like. In this sense, many homes contain private

[34] The absence of ability among infants and children to regulate the appearance and disappearance of their audience does not mean that privacy or separateness is not an important feature of their development; the privacy need is simply expressed differently. The infant, for example, can sometimes remove himself from the field of stimulation by going to sleep or wriggling away from the adult who holds him This is probably why pathology resulting from overcontact is less likely than that due to undercontact, for the former is far more easily regulated by the infant than the latter. At a later stage of development, the infant learns that he can hold back and let go in reference not only to sphincters but to facial expressions and general dispositions as well. He comes to view himself as a causal agent as he inherits the power of voluntary reserve. When the child is locomoting he first confronts privacy imposed against him by others and begins to define himself in terms of where he may and may not go. On the other hand, his ambulatory ability gives him enormous control over his audience, a power in which he delights by "hiding." Espionage is practiced as well and suspected in others—whereby the condition of shame begins to acquire meaning for the child. These incomplete comments suffice to illustrate the point that the privacy impulse is not at all inactive in infancy and childhood. They further suggest that each stage of development has its own mode of privacy, which may be defined in terms of the ego's relationship to those from whom privacy is sought and the manner in which withdrawal is accomplished.

[35] Goffman, *The Presentation of Self in Everyday Life*, *op. cit.* (see n. 10 above), pp. 66–86.

[36] Simmel, "Brücke und Tür," *op. cit.* (see n. 2 above), p. 4.

[37] *Ibid.*, p. 3.

dungeons or, rather, provisions for transforming the child's room into a cell—which forces upon us the distinction between formal and informal imprisonment.

Privacy is not dependent upon the availability of lockable doors. Goffman, for example, discusses "free places" in the institution where inmates may, free of surveillance, "be one's own man . . . in marked contrast to the sense of uneasiness prevailing on some wards."[38] In addition there is "personal territory" established by each inmate: for one a particular corner; for another a place near a window, etc. "In some wards, a few patients would carry their blankets around with them during the day and, in an act thought to be highly regressive, each would curl up on the floor with his blanket completely covering him; within the covered space each had some margin of control."[39] Thus do men withdraw from others to be at one with themselves and to create a world over which they reign with more complete authority, recalling Simmel's observation that "the person who erects a refuge demonstrates, like the first pathfinder, the typically human hegemony over nature, as he cuts a particle of space from continuity and eternity."[40]

In summary, islands of privacy exist in all establishments and throughout even the most intimate household. These islands are protected by an intricate set of rules. When these rules are violated secret places are sought after, discovered, and employed as facilities for secret action. These places and their permeability constitute one type of map, as it were, of interpersonal relationships and reveal the nature of the selves participating in them.

Privacy, property and self.—Implied in any reference to a private place is its contents, personal property. One perhaps more often than not withdraws into privacy in order to observe and manipulate his property in some way, property which includes, of course, body and non-body objects.

There are two types of objects: those which may be observed by the public (and which may be termed personal objects) and those which are not available to public view (private property). Private property, as we are using the term, may be further delineated in terms of those intimate others who may have access to it in terms of visibility or use. Some private objectifications of self may be observed by family members, but some may be observed by *no one except the self*. There is no doubt that these latter objects have a very special meaning for identity; some of these are sacred and must not be contaminated by exposing them to observation by others; some are profane, and exposure will produce shame, but both are special and represent an essential aspect of self and, from the possessor's point of view, must not be tampered with.

It is because persons invest so much of their selves in private and personal things that total institutions require separation of self and material objects. When individualism must be minimized private ownership is always a vice worthy of constant surveillance. In such situations the acquisition and storage of personal things persist in the form of the "stash," which might be anything from a long sock to the cuff of one's pants.[41]

It follows that those who have direct or indirect access to the belongings of others or to articles which have been employed by them in private ways enjoy a certain amount of power which, if judiciously employed, may serve their interests well. Hughes observes:

[38] Erving Goffman, "The Underlife of a Public Institution," in *Asylums* (Garden City, N.Y.: Doubleday & Co., 1961), p. 231.

[39] *Ibid.*, p. 246. For more on norms regulating territorial conduct in face-to-face encounters, see Nancy Felipe and Robert Sommer, "Invasions of Personal Space," *Social Problems*, XIV (May, 1966), 206–14; and Robert Sommer, "Sociofugal Space," *American Journal of Sociology*, LXXII (May, 1967), 654–60.

[40] Simmel, "Brücke and Tür," *op. cit.* (see n. 2 above), p. 3.

[41] Goffman, *Asylums*, *op. cit.* (see n. 38 above), pp. 248–54.

It is by the garbage that the janitor judges, and, as it were, gets power over the tenants who high-hat him. Janitors know about hidden love affairs by bits of torn-up letter paper; of impending financial disaster or of financial four-flushing by the presence of many unopened letters in the waste. Or they may stall off demands for immediate service by an unreasonable woman of whom they know from the garbage that she, as the janitors put it, "has the rag on." The garbage gives the janitor the makings of a kind of magical power over that pretentious villain, the tenant. I say a kind of magical power, for there appears to be no thought of betraying any individual and thus turning his knowledge into overt power [42]

But, certainly, power need not be exercised to be effective. The mere knowledge that another "knows" invokes in the treatment of that other certain amount of humility and deference.

DEPRIVATIZATION

We have attempted to show that the possibility of withdrawal into well-equipped worlds which are inaccessible to others is that which makes intense group affiliations bearable. But we have also seen that men are not always sucessful in protecting their invisibility. Accidental leakages of information as well as the diverse modes of espionage threaten the information control that privacy is intended to maintain. But information control also consists of purposeful information leakage and even of the renunciation of secrecy. Just as men demand respite from public encounter they need periodically to escape themselves, for a privacy which lacks frequent remissions is maddening. The over-privatized man is he who is relieved of public demand only to become a burden to himself: He becomes his own audience to performances which are bound for tedium. Self-entertainment is thus a most exhausting business, requiring the simultaneous performance of two roles: actor and spectator. Both tire quickly of one another. When privacy thereby exhausts itself new and public audiences (and audienceships) are sought.

Moreover, we are led to relinquish our private information and activities by the expediencies and reciprocities routinely called for in daily life. We all know, for example, that in order to employ others as resources it is necessary to reveal to them something of ourselves, at least that part of ourselves which for some reason needs reinforcement. When this occurs (providing support is forthcoming), two things happen. First, we achieve some degree of gratification; second, and most important, our alter (or resource) reveals to us information which was heretofore withheld, for self-revelation is imbued with reciprocal power: It calls out in others something similar to that which we give of ourselves. There is both mutual revelation and mutual gratification. It is easy to see that when stress or need is prolonged this process may become institutionalized: Intimacy is then no longer an alternative; it is enforced, and private activity becomes clandestine and punishable. The deprivation process approaches completion when we are not only penalized for our withdrawals but feel guilty about them. A housewife who had probably undergone the deprivatization process confided to Whyte: "I've promised myself to make it up to them. I was feeling bad that day and just plain didn't make the effort to ask them in for coffee. I don't blame them, really, for reacting the way they did. I'll make it up to them somehow."[43]

But loss of privacy among conventional folk is free of many of the pains of social nakedness which are suffered by inmates and by others undergoing total surveillance. The civilian voluntarily subjects himself to publicity and is relatively free of the contamination of unwanted contacts. His unmaskings are selective and subject to careful forethought. The intruder is chosen rather than suffered; indeed, his resourcefulness depends upon his ability to "know" his client-neighbor. Therefore, in civil life,

[42] Everett C. Hughes, *Men and Their Work* (Glencoe, Ill.: Free Press, 1958), p. 51.

[43] Whyte, *op. cit.* (see n. 32 above), p 390.

we find valid rationalization for our self-revelations. The demand that we "be sociable" is too compelling and too rewarding to be ignored by any of us.

But a substantial self-sacrifice is made by those who actually believe themselves to be what they present to public view. An awareness of the masquerades and deceptions that are part of good role performance is necessary to recall ourselves to our *own* selfhood and to our opposition to that of others. We must indeed deceive others to be true to ourselves. In this particular sense privacy prevents the ego from identifying itself too closely with or losing itself in (public) roles. Daily life is therefore sparked by a constant tension between sincerity and guile, between self-release and self-containment, between the impulse to embrace that which is public and the drive to escape the discomfort of group demands. Accordingly, our identities are maintained by our ability to hold back as well as to affiliate. Thus Goffman writes:

> When we closely observe what goes on in a social role, a spate of sociable interaction, a social establishment—or in any other unit of social organization—embracement of the unit is not all that we see. We always find the individual employing methods to keep some distance, some elbow room, between himself and that with which others assume he should be identified.
>
> Our sense of being a person can come from being drawn into a wider social unit; our sense of selfhood can arise through the little ways in which we resist the pull. Our status is backed by the solid buildings of the world, while our sense of personal identity often resides in the cracks.[44]

For Goffman, privacy is one of "the little ways in which we resist the pull" of group commitments and reinforce our selfhood.

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[44] Goffman, *Asylums, op. cit.* (see n. 38 above), pp. 319–20.

Protestant Groups and Coping with Urban Life in Guatemala City[1]

Bryan R. Roberts

ABSTRACT

This paper analyzes the social significance of Protestant sectarian groups in two urban neighborhoods of Guatemala City. These groups recruit individuals with aspirations for social and economic improvement who are without a network of secular relationships to aid them in time of emergency and help them obtain better social and economic positions. In comparison with Catholics, Protestants are younger and more likely to be self-employed. They also are more likely to be migrants who have few family ties in the city. The social organization of neighborhood Protestant groups entails encompassing moral and secular relationships that effectively provide for members' economic and social needs. The effects of these groups under the conditions of Guatemala City are to provide economic security rather than rapid economic improvement and to withdraw members from overt political co-operation with people of similar social and economic position.

This is a study of the social significance of sectarian Protestant groups in two low-income and overwhelmingly Catholic neighborhoods of Guatemala City.[2] Interpretations of the significance of minority Protestant groups in secular life have often focused on their doctrinal ethic. Following the familiar argument developed by Weber,[3] certain features of Protestant doctrine have been thought to stimulate rational and innovative economic behavior. In contrast, the doctrine of sectarian Protestant groups of the kind we shall be discussing have been depicted as encouraging members to withdraw from involvement with secular affairs.[4] The relation of religious doctrine to secular behavior is often complicated, however, because the doctrine of any given religious group includes precepts that have contradictory implications for members' secular behavior.

In many developing countries, a Protestant sect's doctrinal ethic contains such contradictory implications for members' secular behavior. These sects emphasize standards of personal conduct modeled on those of developed countries. Such standards often contrast with traditional beliefs and practices encouraged or tolerated by long-established local faiths. From this viewpoint, the emergence of sects can be seen as a possible stimulus to economic and social change. Yet, these same sects emphasize the overriding importance of life in the world to come, the futility of material welfare in this world, and the inevitability of suffering. This doctrinal emphasis can be interpreted as encouraging withdrawal in the face of society's problems.

[1] The research for this paper was carried out in 1966 while on leave of absence from the University of Manchester and with the aid of a grant from the Wenner-Gren Foundation and the Institute of Latin American Studies of the University of Texas. I would also like to thank Dr. Emrys Peters and Dr. Peter Worsley for their critical reading and suggestions.

[2] Pentecostals are approximately 60 per cent of Protestants in the sample of both neighborhoods. Other Protestant groups represented are Jehovah's Witnesses, Seventh Day Adventists, and Southern Baptists. Only the Presbyterians of the more formal and traditional Protestant groups are also present.

[3] Max Weber, *The Protestant Ethic and the Spirit of Capitalism* (London: George Allen & Unwin, 1965).

[4] Bryan Wilson, *Sects and Society* (London: Heinemann Publishers, 1961).

My argument in this paper is that the doctrinal ethic of these religious groups has no consistent effect on a member's secular behavior. Its impact is situational, depending on the structural position of sects within an urban social system. It is this structural position that determines the social origins of sect members and the organizational expressions of the group's religious purpose. These social origins and sect organization are the most powerful influences on members' secular behavior.

In an urban area, religious sects have important latent functions. Sects provide a set of social relationships for members that, though organized primarily for religious ends, persists in secular life and can be used for secular purposes. In this respect they are similar to other forms of voluntary association where social relationships established for specific goals are often utilized for other social and economic purposes.[5] Under specific urban conditions, sects develop as multipurpose associations recruiting from a socially distinctive section of low-income families. These urban conditions are present in Guatemala and in other rapidly urbanizing but underdeveloped countries.[6]

The urban conditions which influence the development of sects in Guatemala City stem from its rapid urban growth to a present size of 600,000. This growth is supplied in part by immigration from rural areas and is not accompanied by an equivalent growth of large industrial and commercial enterprises or the provision of adequate urban services. Among low-income groups, these factors entail high rates of mobility within the city (in search of jobs and adequate housing), a scarcity of stable work in large-scale economic enterprises, and few resources in case of emergency. A general consequence of this situation that I deal with more fully later is that there are neither the geographical, economic, nor social bases for enduring secondary associations among low-income families. Under such urban conditions, a religious sect is one of the few forms of urban voluntary association available to low-income families.

Not all families need such associations. As I suggest elsewhere,[7] low-income families cope with life in cities, whose formal structure is not highly developed, by forming an extensive and socially heterogeneous network of social relationships. These relationships guard against economic emergency and secure available opportunities. Some of these relationships are often with economically and politically influential people. Protestant sects are likely to recruit from those low-income families who have not been able to develop such relationships.

From the above discussion I now suggest certain propositions concerning Protestant sects in cities experiencing rapid growth without an equivalent expansion of industry and urban services. In the body of this paper I will explore these propositions using material from two Guatemalan neighborhoods.

The secular attraction of sect membership is strongest among low-income families. Protestant sects recruit those low-income individuals (*a*) who aspire to improve their position, and (*b*) whose youth, migration, and family history have not given them the opportunity to establish social relationships outside their work. These sects develop an organization catering not only

[5] Margaret Stacey explores this aspect of voluntary associations in her study of the social structure of an English town, Banbury (*Tradition and Change* [London: Oxford University Press, 1960], pp. 75–91).

[6] In his discussion of Protestantism in Brazil and Chile, E. Willems shows that the increase in Protestantism has occurred disproportionately in urbanizing areas and among Protestant sects. Willems interprets this both as a protest against existing social inequalities and as a reaction to disorganizing features in urban life. My analysis will be similar in many respects (see E. Willems, "Protestantism and Culture Change in Brazil and Chile," in William D'Antonio and Frederick Pike [eds.], *Religion, Revolution and Reform* [New York: Frederick A. Praeger, Inc., 1964]).

[7] Bryan Roberts, "Politics in an Urban Neighborhood of Guatemala City" (unpublished mimeographed MS). To appear in *Sociology*, September, 1968, or January, 1969.

to members' religious needs but to a range of economic, social, and political ends as well. Sect members' participation in community life outside their churches is low, and they form an isolated social group in opposition to the wider society. A member's capacity to achieve his social and economic goals is thus limited to the range of assistance available inside his church and by the investment of time and money required by his church. To achieve social and economic improvement beyond that of other sect members, an individual must withdraw from active participation in his church. This occurs when members have reached a stage in their lives when alternative forms of social relationship are available.

After a brief description of the religious groups and of the two neighborhoods, I examine the social origins of Protestants in the two neighborhoods. Then follows an analysis of the secular and religious organization of these Protestant groups. I conclude by relating their social organization to the effects that these sectarian groups have on members' economic and political behavior.

THE PROTESTANT GROUPS AND THE TWO NEIGHBORHOODS

In both neighborhoods, Protestants are approximately 20 per cent of the random sample.[8] This figure is in contrast to the 1950 Guatemalan census figure, listing Protestants as 2.9 per cent of Guatemala's population, and with the 1962 estimates of Guatemala Protestant churches, claiming approximately 3.5 per cent of the total population.[9] In my analysis I treat neighborhood Protestants as a single group. Differences among Protestant groups are important; but for the present paper, I stress the general characteristics that distinguish Protestants from Catholics in the two neighborhoods.[10] The analysis applies most closely to the Pentecostals, who are the majority of Protestants in both neighborhoods.

In my field work, the characteristics of Protestant groups in the two neighborhoods emerged as follows. The dominant emphasis of these groups is on salvation through personal faith and through study of the Bible. Individuals are encouraged to lead honest, hard-working lives, abstaining from drink and cigarettes. The world outside the churches is regarded as a dangerous and corrupting influence on a member's faith. Status inside the churches depends on reaching a certain level of spiritual experience and knowledge and is assumed to be attainable by all members. An accumulation of material possessions or a preoccupation with non-religious problems is regarded as a serious hindrance to salvation. Members in these Protestant groups play an active part in church services and in the day-to-day administrative, proselytizing, and educational activities of their churches.

The two neighborhoods from which the present data are drawn reflect Guatemala City's rapid growth. One of them is situated in a ravine near the center of the city and was invaded illegally by its inhabitants some eight years ago. It consists of wooden shacks with tin roofs and has scarcely any urban services. The second neighborhood is situated at some distance from the center of the city and consists of rented and

[8] In the ravine neighborhood, the total interviewed sample consisted of 104 families; and in the other neighborhood, of 64 families. These samples respectively represented an 85 per cent response to a 33 per cent sample of the entire ravine neighborhood and a 95 per cent response to a 50 per cent random sample of a representative sample of the second neighborhood. There are twenty Protestant families in the sample of the ravine neighborhood and thirteen Protestant families in the sample of the second neighborhood. Other data are drawn from eight months' participant observation in the two neighborhoods.

[9] H. Wakelin Coxill and Sir Kenneth Grub (eds.), *World Christian Handbook* (London: World Dominion Press, 1962).

[10] Everyone in the sample who did not say they were Protestant claimed to be Catholic. I will analyze below the significance of Catholicism in Guatemala.

owned accommodations that range from well-built houses to shacks of the type found in the first neighborhood. In the ravine neighborhood, the average family income is approximately $55 a month; and in the second neighborhood, $65. These figures are representative of the majority of low-income neighborhoods in a city where $2.00 a day is a good wage for unskilled and semiskilled workers. Both neighborhoods contain a high proportion of heads of family who were born outside the city. Approximately 80 per cent of heads of family were born elsewhere, though the modal length of their urban residence is 20–30 years.

THE SOCIAL ORIGINS OF NEIGHBORHOOD PROTESTANTS

In this section, I use data drawn from the present characteristics of Protestants in the two neighborhoods to assess their characteristics at the time of conversion to Protestantism.[11] The analysis is an exploratory attempt to determine the differences in social origins of Protestants and Catholics in the two neighborhoods.

Certain social differences in Guatemala are not present in the two neighborhoods, and their consequences for conversion to Protestantism must lie outside the scope of this analysis. For example, with two exceptions, all families in the sample are *ladinos*, or Spanish-speaking persons who wear European dress.[12] A small minority of these families have parents who are Indian and have themselves come from predominantly Indian villages. These families have put away Indian dress and speech and are found in equal proportions among both Protestants and Catholics. Also, the overwhelming majority of heads of family in this sample are migrants. They had all migrated from regions within a day's journey of the city. With one or two exceptions, the entire sample of migrants has made a decision to settle permanently in the city. They have no economic ties (such as land) with their region of origin. These migrants had come to the city because of the difficulty of making a living in the countryside with its low plantation wages; some had come from small farms where land is poor and conditions not suitable for cultivation. In almost all cases, their parents had been small farmers.

Before discussing the factors that do differentiate Protestants from Catholics, I want to stress that the contrast between urban and rural life as experienced by migrants in these neighborhoods is not a great one.[13] Short distances and the spread of mass media reduce the cultural differences between city and *ladino* rural areas. The prevalence of small-scale trading and craft activities in the city contributes to this. In terms of voting figures and readiness to organize in the community, recent migrants participate more in urban life than older-established migrants. Sects in these neighborhoods are not institutions that socialize migrants to city ways. Instead, they help

[11] In all but five cases, the people in my sample converted to Protestantism in the city, did not migrate as Protestants, and were not born into Protestant families. The relatively recent expansion of the Protestant sects we are dealing with accounts for this. As a consequence, I do not deal here with the significance of the migration of rural Protestants.

[12] A *ladino* is generally defined in this way. An Indian is defined as someone who habitually speaks an Indian language and often wears traditional Indian dress. Indians are mainly confined to the highland regions and have not migrated to the city in substantial numbers. *Ladinos* are found in rural as well as urban areas and have formed the bulk of migration to the city. For further discussion, see Richard Adams, "La Ladinizacion en Guatemala," *Integracion Social en Guatemala* (Seminario de Integracion Social Guatemalteca, Publication No. 3, 1956); and Melvin Tumin, *Caste in a Peasant Society* (Princeton, N.J.: Princeton University Press, 1952).

[13] Lewis makes a similar point for Mexico City, contrasting people at different levels of wealth and education rather than urban and rural inhabitants (Oscar Lewis, "Some Perspectives on Urbanization with Special Reference to Mexico City," forthcoming in Edward M. Brenner and Aiden W. Southall (eds.), *Urban Anthropology* [Chicago: Aldine Press, 1968]).

neighborhood inhabitants resolve social and economic problems of survival.

Protestants do, however, recruit people of social backgrounds that are different from Catholics. In both neighborhoods, the factors in social origin that differentiate Protestants from Catholics are employment status, age, and stability of family relationships. I also argue that those converting to Protestantism are differentiated on certain attitude dimensions from those who remain Catholic.

Protestant groups in both neighborhoods are disproportionately recruited from self-employed heads of family engaged in minor trading or craft activities. At the time of their conversion, almost all Protestants were so employed. This is indicated by comparing their present occupational status with that of Catholics (Table 1). All the self-employed in this table were self-employed at the time of their conversion, as were two Protestant employees in large enterprises.[14]

The three occupational classifications signify differences in the steadiness of the work and in the extent workers obtain stable and co-operative social relationships in their work. Employment in large-scale enterprises means regular pay and co-operation with other workers at a similar level. Employment in small-scale enterprises involves working alone or with only one or two fellow workers. In my sample, this occupation usually involves fairly frequent personal relationships with an employer.

The self-employed workers compete with many others engaged in similar activities. Self-employment is not especially lucrative under Guatemala's static economic conditions. Nor is it prestigious to be self-employed; and many of the self-employed Protestants wished to switch their jobs for steadier ones in a factory. The earnings of the neighborhood's self-employed are similar to those of employees in large-scale enterprises; but these earnings are more uncertain. Self-employed workers face fluctuations in income, depending on trading conditions. For the rapid increase in Guatemala City's labor force has been absorbed, in the absence of rapid industrialization, by small-scale craft, service, and trading activities. In the face of intense competition, it is difficult for an individual to build up stable contacts to market his services and goods or to obtain needed information and help concerning possible markets or clients. For example, shoemakers must market their shoes either by bargaining with city shops over a bulk price for their product or by selling door to door. Self-employed workers, unlike workers in large-scale enterprises, do not have workmates who will give them aid and advice in emergencies. Protestant groups, as we shall see, provide such a set of social relationships for these self-employed workers.

TABLE 1

OCCUPATION AND RELIGION

Type of Occupation	Protestants (%)	Catholics (%)
Self-employed	64	35
Employees in small enterprises	21	23
Employees in large enterprises	12	39
Unemployed	3	3
Total	100	100
N	33	135

Protestant groups also recruit from younger heads of family. This is especially

[14] Employees in large enterprises are laborers in large-scale construction enterprises (the modal occupation), factory workers, and transportation workers. Employees in small enterprises are watchmen, odd-job men, and employees in small shops or bakeries. Self-employed workers are craftsmen, such as shoemakers and tailors working in their own houses, small-scale traders, peddlers, and jobbing laborers. Percentages in Table 1 are rounded to the nearest number. This procedure is followed throughout the paper. The contrast between Protestants and Catholics in the table is not explicable by a change in occupational distribution in the city since the conversion of Protestants. Rapid urban growth without industrial expansion has, if anything, increased the proportions of those here categorized as self-employed. Census figures are not available in terms of these categories.

true for self-employed workers: 62 per cent of self-employed Protestant heads of family are forty years of age or under; 30 per cent of Catholic heads of family are forty or under. Younger heads of family, especially when they are self-employed, are less likely than older workers to have had the time and the experience to develop the personal contacts that help in emergencies or in their work.

Protestants in these two neighborhoods are also recruited from those who do not have strong kinship or family ties in the city. Protestants are a little more likely to be migrants than Catholics (88 per cent, and 80 per cent, respectively); 72 per cent of Protestant migrants (twenty-one out of twenty-nine cases) came to the city either alone or with one other person. They did not come as part of a family unit or group of relatives. They also had few relatives in the city on arrival and, in most cases, converted to Protestantism within several years. In comparison, only 47 per cent of Catholics migrated alone or with one other person, and most of these already had relatives in the city on arrival. In addition, four of the five female heads of family who are Protestants converted to Protestantism when their husbands' desertion disrupted their existing family and kinship links. These aspects of Protestant life histories are reflected in their present contacts with kin in the city. Whereas 66 per cent of Catholics in the two neighborhoods have and see relatives in the city, only 39 per cent of Protestants make similar claims. Approximately one-half of the sample of Protestant heads of family were converted when they were still single.

TABLE 2

RELIGION, ASPIRATIONS, AND EMPLOYMENT

Aspirations	Protestant Self-employed (%)	Catholic Self-employed (%)
Wants child to go no further than primary school	25	49
Will wait and see	30	17
Wants child to go to secondary school or beyond	45	34
Total	100	100
N	20	43

Occupational status, age, and life history of Protestants are likely to be interrelated. For example, lack of kin contact and age influence the type of job an individual can obtain. The three factors also reinforce each other's effect. A self-employed worker needs to establish relationships to help him in his work and to safeguard against emergencies, but will be handicapped in doing so if he is too young to have had much experience and if he lacks kin contacts.

Field work also suggests that recruits to Protestant sects differ from Catholics on certain attitude dimensions. I conversed with two individuals in the process of conversion and obtained from other Protestants accounts of their histories prior to conversion. Before joining a Protestant group, these people already had aspirations and even concrete plans to better themselves. One of those in the process of conversion had enrolled in night school from his first arrival in the city and intended to go as far in school as possible.

The present attitudes of Protestants show that they differ with Catholics on aspirations for their children. The sample was asked how far they wanted their children to go in school. Protestants were more likely than Catholics to say that they wanted their child to have three or more years of secondary education (37 per cent of Protestants as against 25 per cent of Catholics). Catholics were more likely to be content that their children would go no further than primary school. This difference persists when only self-employed workers are analyzed (Table 2).

Categorizing the self-employed with children into above and below forty years of age makes no difference with respect to their aspirations for their children. The different age structure of Protestants as

against Catholics is not a factor influencing aspirations for children's education.

I argue that this difference in aspirations between Protestants and Catholics is produced both by the social origins of Protestants and by the unintended consequences of sect membership that I discuss later. I suggest this partly because of the Protestants' own accounts that I have already cited and partly because of the doctrinal characteristics of these sects. All these churches consider material well-being or education beyond literacy as irrelevant to salvation. It is thus difficult to explain the higher aspirations of Protestants in terms of their sect's doctrine.

These Protestants have also been longtime critics of the existing political and social structure of their country. This information emerged in conversation and in their accounts of their earlier lives. They, more than Catholics, were explicitly critical of political and economic inequalities in Guatemala. These political attitudes appeared to be formulated prior to their conversion. For instance, one Protestant described his life-long hostility to the power of the military and landowners. He then gave thanks to God that he had become a Protestant, since, he said, this had made him realize the irrelevance of suffering in this world and had prevented him from losing his life in futile attacks on the governments of the day.

It is not surprising that people who are young, who have come to the city in search of a better life, and who are on their own in terms of kin links and occupation should also have higher social aspirations and be politically radical. I argue that Protestant sects in these two neighborhoods recruit such individuals because the sects alone provide accessible sets of social relationships that enable such individuals to cope with the practical problems of living in Guatemala City. Before examining the extent to which these Protestant groups do cater to the secular needs of relatively isolated people, I now briefly examine why alternative forms of urban association do not do the same job.

ALTERNATE FORMS OF URBAN ASSOCIATION

Social relationships effective in helping an individual cope with the problems of urban life in Guatemala are those based on enduring ties of sentiment and interest. For most low-income families in the city these are formed over time through interaction and exchanged services with kin, friends of long standing, and through enduring work relationships. It is the degree of trust built up by mutual exchange and the mutual fulfilment of obligations that make such relationships reliable as sources of aid in emergencies. It is such relationships that self-employed Catholics use in pursuit of their trade and to cope with the day-to-day problems of urban life. Because of their occupational status, age, and lack of kin and family contacts, the group of people recruited to Protestant sects in these neighborhoods have found it difficult to form such relationships.

Apart from the Protestant sects, there are no other forms of association that compensate for personal relationships established over a period of time. In Guatemala, the constant movement of people within the city, the type of rural-urban migration, and the predominance of self-employed occupations mean that there is neither an economic, social, nor geographical base for enduring secondary associations.

For example, ties based on place of birth are of little importance in Guatemala City and do not form a basis for regional associations. Among the Protestant sample, as among Catholics in the two neighborhoods, approximately 75 per cent of marital unions are contracted between people born in different municipalities of the nation. Few ties of interest or sentiment link migrants to their home region. As noted earlier, not one family in the sample sends money back to their home area, has property there, or entertains thoughts of returning. Culturally, there is little that is distinctive about

the areas of origin of migrants in the two neighborhoods. They come from Spanish-speaking villages where landownership and cultivation are individual rather than communal. The few families in the sample that come from Indian villages and whose parents are Indian have adopted the dress and language of the city and are not eager to emphasize their Indian background. In the course of movements inside and outside the city, almost all migrants in the two neighborhoods have lost contact with people of their home regions.

Likewise the scarcity of employment in large enterprises and high residential mobility in the city are not conducive to associations such as labor unions, mutual benefit associations, or sporting associations. These either do not exist among low-income families or have very few members. Without an enduring basis of co-operation and interaction among members, such associations are especially prey to non-attendance, non-payment of contributions, and embezzlement of money by association officers. Several Protestants, for example, recounted experiences of losing their contributions when a treasurer of a mutual aid association they had joined absconded with the association's funds. To people in both neighborhoods, formal associations are not readily available means of establishing stable social relationships in the city. In the two neighborhoods, only 10 per cent of heads of family belong to any type of non-religious club or association, be it labor union, regional association, sporting club, mothers' club, or the like. Half of these belong to a weekend football club.

The Roman Catholic church is one form of association of which almost every Guatemalan is a member from birth. Urban Catholic churches, however, do not provide urban dwellers with a stable set of social relationships.[16] This is due in part to the traditional position of Catholicism in Guatemala. In rural areas, Catholicism has been an integral part of the social and economic life of the villages, but Catholics have had little contact with priests or the formal services and sacraments of the church. In this latter and formal sense, the Catholic church has not been a focal center for Guatemalan social life. This is reinforced in the city by the scarcity of priests. In the low-income areas, there is approximately one priest to about 30,000 people. Since Catholics are the vast majority of the urban population, they are too large and amorphous a group to be an interacting community.

Guatemalans in the city do not regard their religion as centered around any one church and its community of believers. In a local urban neighborhood there are few common social and economic interests to provide a community base for Catholic observance. Catholicism among people in these neighborhoods is thus a religion involving personal devotion to a saint, prayer, and attendance at services in a variety of churches. The sacraments of the church, such as confession and communion, are infrequently taken. Approximately 70 per cent of Catholics in the two neighborhoods are not married by either church or civil authority, but live in free union with their partners. A Catholic congregation in a city church does not form a stable set of social relationships, but a constantly changing series of individuals. This is particularly true for self-employed workers in the two neighborhoods. The irregular working hours and working seven days a week mean that they visit a church at odd moments.

In contrast, I argue in the next section that Protestant groups in both neighborhoods are effective moral communities. In frequent interaction, Protestants stress the importance of their moral code. Offenders are readily observed. On complaint of other members of a congregation, they are disciplined—by exclusion from church services and other activities—by the officers of

[16] For a general discussion of these points in relation to Catholicism in Latin America, see Ivan Vallier, "Religious Elites: Differentiations and Developments in Roman Catholicism," in S. M. Lipset (ed.), *Elites in Latin America* (New York: Oxford University Press, 1967), pp. 190–233.

the congregation. Exclusion is an effective sanction because church ties serve, as we will see, a variety of secular functions that provide for an individual's economic and social well-being. Membership in a Protestant group thus guarantees reliability and stability in social relationships that encourage mutual aid and add to the advantages of group membership. The Protestant groups represent one of the few forms of urban association in Guatemala that is thus based on enduring ties of sentiment and interest.

THE INITIAL ATTRACTION OF PROTESTANT GROUPS

Initial, though lasting, attractions of these Protestant groups to people who have few secular ties and are in exposed social and economic positions are (*a*) their complete accessibility as social systems and (*b*) the close fit between various parts of their doctrine and secular problems current in Guatemala.

Protestant groups successful in the two neighborhoods are visible and available forms of association. The doors of Protestant churches are always left open during services, and everyone is welcome. In contrast to more formal Protestant denominations, Protestant groups in these neighborhoods maintain churches in or near the neighborhood, and their pastors and officers are usually members of the neighborhood. More formal Protestant denominations, such as Lutherans, Methodists, and even Presbyterians, do not establish branches in these neighborhoods, and they rely on a few full-time ministers and officers to organize their activities. Furthermore, the Protestant groups in the two neighborhoods are recent organizations that on principle delegate most of the work of ministry to members of their congregation and to part-time officers. This enables them to expand easily and to contact new members at the neighborhood level. All the Protestant groups in the neighborhood have a series of tasks and offices filled by members of their congregation. From his first induction into a group, a convert in these neighborhoods acquires a definite position and status through carrying out some task or office. For people who in secular life have few ties and hardly any status, membership in a neighborhood Protestant group immediately gives them a definite position. It caters to their social aspirations by differentiating them from the mass of the neighborhood population.

In doctrine these groups emphasize spiritual rather than material gain. They also stress those parts of the Bible which predict that the world must pass through a series of disasters. The message of these groups thus fits Guatemala's political and economic misfortunes. Prospective converts and many Protestants, especially among the self-employed, cited this message to account for the difficulties and temporary failures they are encountering in attempting to improve their economic and social positions. They do not desist from trying to better themselves despite the pessimism of their church's message. Sect doctrine also provides them practical means to alleviate the dangers of economic insecurity. By forbidding smoking and drinking, the church allows its members to make both marginal and important savings in their budgets. And, for people such as our sample of Protestants, who are desirous of improving their situation and that of their family, one of the greatest dangers in Guatemala City is the temptation to alcoholism and petty crime. In this situation, the small Protestant groups provide a community of supportive relationships which can help individual members avoid drinking, smoking, and petty crime. It is these offences against their religious doctrine that are most frequently castigated by neighborhood Protestants in conversation and in their church meetings. More subtle moral misdemeanors are less discussed.

These practical aspects of Protestant doctrine are influential in conversion to Protestantism. Several of the Protestants in the sample were converted at points in their careers when opportunities to improve

their economic situation were offered and they felt incapable of making use of them because of excessive drinking. For example, one Protestant in the sample had been slowly ruining his health with drink and had no family ties or other forms of stable social relationship on which to rely. He was offered a chance to start a job selling bread door to door, and at the same time he wished to get married. Shortly afterward he converted to Pentecostalism. He frequently asserts that it is through the moral support he gets from his religious brethren that he has been able to prosper in his job and his marriage.

SECULAR IMPLICATIONS OF PROTESTANT SOCIAL ORGANIZATION

I now turn to the way in which their urban environment and lack of alternative social relationships lead Protestant groups to encompass members' secular as well as religious life.

Joining a Protestant group brings an individual into frequent social interaction with other members of a congregation. In both neighborhoods, Protestants attend their churches or meeting houses about three times a week, with services lasting two or more hours. In the three Pentecostal churches in the ravine neighborhood, services are held almost every night of the week and last from about 7:30 P.M. to after 10:00 P.M. In addition, North American missionaries attached to the central churches of almost all these groups have attempted to introduce Guatemalans to North American standards of behavior. Consequently, many of these groups provide recreational and educational associations designed to educate members in household budgeting, social comportment, and table manners. These activities and the compulsory social visiting among members of a church take up another one or two evenings of a Protestant's week.

The above social relationships also secure material aid and advice for neighborhood Protestants. To counter the political and economic uncertainties of Guatemala City, the various Protestant groups in the two neighborhoods have developed a complete system of aid among members. Funds attached to the central headquarters of these groups pay for funeral expenses when a family member of a believer dies. When a Protestant in one of the neighborhoods is sick, members of his congregation join together to provide money for the affected family and frequently visit the sick person. Should a Protestant in one of the neighborhoods need help to improve or repair his house, instal drainage, or obtain a loan, other members of his congregation join together to give help. If a Protestant is out of a job or wants to change his work, other members of his congregation help him to find work.

The size of the individual Protestant groups reflects their secular as well as religious purposes. Most congregations number about thirty active adult members. The relative smallness of the congregations makes it possible for all members of a congregation to interact with each other, take an active part in church affairs, and help each other when necessary. In the ravine neighborhood, one Pentecostal group had split after a period of rapid expansion. Indeed, while Pentecostals in the ravine neighborhood are active in missionary activity outside their neighborhood, they make little effort to convert new members within the neighborhood, and they wait for converts to approach them. Yet the neighborhood contains many non-active Protestants and Catholics. In fact, the Pentecostals are content with their present size. It is a size that best caters to the social and economic needs of members of these groups.

The identity of these Protestant groups is reinforced by the minority status of Protestantism in Guatemala. Protestants in both neighborhoods are not only religious dissenters but a highly visible group of dissenters. This is more pronounced in the ravine neighborhood where homes are thin-walled shacks. In this neighborhood, Protestants are easily recognizable by their radios loudly broadcasting religious serv-

ices many hours of the day, by the sound of their guitars and hymns emanating from their chapels, and by their abstention from drinking and smoking. In the other neighborhood also, Protestants with Bible in hand or singing loudly in their churches are also a visible group. This visibility has entailed hostility and mild forms of persecution from some Catholics. In the early days of the foundation of the ravine neighborhood, storekeepers refused to serve Protestants. To this day, stones are thrown onto the roofs of Protestants and neighbors turn their radios even louder to interrupt a Protestant gathering. To Protestantism, such annoyances are signs of a corrupt environment where the majority of people are not yet saved. These features of their minority status help Protestants to maintain the boundaries of their neighborhood groups. It gives them a means of selecting those with whom they interact. In fact, these groups concentrate on the economic and social needs of their own members and limit their obligations to neighbors, relatives, or aquaintances inside and outside the neighborhood.

Membership in the Protestant groups in the two neighborhoods also provides an extensive, as well as intensive, network of personal contacts. And in Guatemala City, individual survival and betterment depend on an extensive network of relationships to provide contacts for jobs or information about other economic opportunities.

There are few full-time professionals to organize linkages among the various churches of a sect and to concern themselves with over-all expansion and organization. Consequently, this work is done, to a great extent, by individual members of a congregation. In the three Pentecostal churches of the ravine neighborhood, church members go out in groups to visit a church in another part of the city. Similarly, missionary work is conducted through the personal contacts of individual members. In the ravine neighborhood, there are Protestants who have converted relatives in rural villages to Protestantism. Once every fortnight one of these Protestants journeys to his relatives' village accompanied by members of his congregation. The distance is about twenty miles. There the group holds Protestant services to help start a Pentecostal church in the village.

A second Protestant in the ravine neighborhood who has Protestant relatives in a village visits less often because the distance is greater. When he does go he takes with him a group from his congregation with their guitars and accordions. Still another Protestant, who travels a great deal to sell his wares in rural areas, often makes contact with Protestants in a distant village. Then, on a weekend, he and a group of Protestants from the ravine neighborhood will visit this village and hold a service.

Visits between Protestant churches within and outside the city are also encouraged through messages on the radio. Protestants have religious programs on one of the city radio stations every day and all day. These programs not only provide sermons and hymns but also relay news and invitations to visit from one church to another, giving exact addresses and times of services.

The contacts that Protestants develop in the course of their travels serve as useful sources of information with respect to jobs and other economic opportunities. In one case, a fellow Pentecostal arrived from across the city to tell a shoemaker in the ravine neighborhood about the possibility of work in a shoe factory. The two had met at religious meetings about a year or so before and had kept up infrequent contact since. A Protestant who had lost a factory job soon found another good job through a religious contact elsewhere in the city. Likewise in their trips to rural areas, neighborhood Protestants discuss the land situation, possibilities for trade, and economic changes in the village.

From the preceding analysis we can see that Protestant groups in these two neighborhoods are groups that encompass the lives of church members. Their social organization effectively diminishes contact

between Protestants and Catholics. Protestants in the two neighborhoods emphasize that, apart from passing acquaintances, they no longer have time to form friendships with Catholics.

I conclude this section by suggesting that joining a Protestant group in these two neighborhoods is not an act of withdrawal in the face of difficult urban problems but an active attempt to cope with these problems through an available and suitable form of association.

THE CONSEQUENCES OF MEMBERSHIP IN PROTESTANT GROUPS

I now want to assess the significance of these Protestant groups for urban life in Guatemala City. I take two aspects of this general problem: the effect of membership in these neighborhood Protestant groups on an individual's economic and social position, and the relation of Protestant groups to politics in Guatemala City.

From my data in the two neighborhoods, there is little evidence that membership in a Protestant group involves considerable personal economic improvement. The average income of Protestants is higher than that of Catholics ($64 and $58, respectively), but the difference is small. Protestants have no more education than Catholics, and in both groups approximately 70 per cent of heads of family are literate. Protestants do not have better material possessions than Catholics. In the ravine neighborhood, only one Protestant has improved his hut with concrete floors and adobe walls, in contrast to more than twenty Catholic families who have made similar improvements. In this ravine neighborhood, not one Protestant has a child who is in secondary education. Yet, many Protestants have children of secondary school age and want them to get jobs requiring a secondary education. Only in two or three cases have Protestants improved their jobs since their conversion.

Those Protestants who are economically better off than most inhabitants of the two neighborhoods have improved their situation through work and contacts that owe little to their membership in a Protestant group. Despite the cohesion of Protestant groups in the two neighborhoods, individual Protestants do vary in the intensity of their participation. Approximately one-third of all Protestants in the sample have ceased to attend a Protestant church regularly, and they confine their religion to Bible reading in their own homes. These non-active Protestants are, in many cases, economically more successful than other Protestants. They ceased to be active participants in their churches when they developed social relationships outside their churches. Of all Protestants, they are the only ones belonging to associations such as a chess club, a social club, or a political party. For most of these non-active Protestants, intense religious activity had conflicted with opportunities to improve their position through devoting more time to work or through utilizing non-religious ties.

These findings are at first sight surprising, since I have stressed how Protestant social organization helps individual members to cope actively with the economic and social problems of living in Guatemala City. Also, other studies of similar Protestant groups in Guatemala and other developing countries have shown that membership in these groups is associated with economic improvement. Nash,[16] studying a village in Guatemala, found that Protestants derive practical advantages from their membership. They avoid drinking and the expenses involved in the traditional religious organization. Norman Long,[17] working among Jehovah's Witnesses in rural Zambia, argues that the network of contacts developed by the Witnesses through their religious activities becomes a useful basis for trading

[16] June Nash, "Protestantism in the Highlands of Western Guatemala" (unpublished manuscript cited in Nathan L. Whetten, *Guatemala: The Land and People* [New Haven, Conn.: Yale University Press, 1961]).

[17] Norman Long, "Religion and Socio-economic Action among the Serenje Lala" (Conference of International African Institute, Accra, Ghana, December, 1965).

activities. He finds that, along with a change in religious beliefs, converts to the Witnesses are also economically mobile. Thus, a group with a religious ethic similar to the groups in the two Guatemalan neighborhoods, has a more pronounced effect on its members' economic position.

Both Long's and Nash's studies show that a Protestant group helps an individual to improve economically by providing a break with a traditional system of social organization which prevents individuals from making use of new economic opportunities. In Guatemala City, however, few people are constrained by traditional values from seizing economic opportunities. The constraint on economic improvement is a static economic situation, as a high failure rate of small businesses in the city attests.

In Guatemala City, Protestants are too few and most are too poor to provide the network of contacts that would be of considerable help in improving a member's material position. Few of the neighborhood Protestants are able to use their missionary contacts in rural areas to further their own businesses. One Protestant shoemaker, who travels often to do missionary work, carries out his sales work in rural areas through a neighborhood Catholic woman who has extensive family and friendship contacts in these areas. Indeed their contacts with rural areas often lead Protestants to emphasize values antagonistic to urban industrial civilization. They talk favorably of the countryside, claiming that it is easier to be a true Christian there in the absence of urban amusements and without the temptation of too much money to spend. In the city, there are few Protestant merchants or professionals who are accessible to neighborhood Protestants through religious ties. As noted, richer Protestants often cease to be active members of their churches, and consequently the expansion in the numbers of Protestants does not substantially add to the number of useful contacts that poorer Protestants can develop.

Furthermore, Protestant groups are recent organizations, and members are highly involved in the extensive activities of their group. These activities impose a drain on Protestants' income. Mutual aid involves the outlay of money as well as possible aid in emergencies. Also, contributions to church building, financing visits to other churches in the city or country, and helping to maintain a pastor consumes as much as 15–20 per cent of a family's budget. In terms of time, the religious activities of these Protestant groups preclude a member from devoting himself to the incessant business activity required for economic success in Guatemala. The organization of their churches and missionary activities often requires individuals to find time in a working day to devote to such concerns. Consequently, many Protestants say that they do not get better-paid and steadier work because it interferes with their religious activities. Thus, because these Protestant groups encompass the lives of their members, economic and social betterment of members is limited by the resources within a group and the commitments it demands. In this respect, joining a Protestant group aids an individual in maintaining himself in the city and slowly improving his social and economic situation until new opportunities and non-religious relationships gradually become available through his work or chance contacts. From an economic and social point of view, joining a Protestant sect is thus a stage in an individual's urban life career. It is a stage that not all will leave.

The social and economic benefits that Protestants accrue from their membership in a Protestant group are of a subtle kind. No Protestant is as economically poor as are several Catholics in the two neighborhoods. Out-of-work Protestants soon find jobs through religious contacts, and consequently the economic position of Protestants is less precarious than that of many Catholics. This is an important advantage to Protestant workers, the majority of whom are self-employed. Protestants dress their children well and are beginning to

make slow but steady improvements to their houses. The many activities of these Protestant groups completely provide for the recreational needs of members and give them a defined social position. The whole family of Protestants is involved in these activities, strengthening family bonds in an urban situation where family breakup is a common phenomenon. It is in these broader social benefits that neighborhood Protestants are investing their surplus wealth.

The self-sufficient social relationships among Protestants also determine their political behavior. They do so because they diminish effective contact with Catholics and because they withdraw these neighborhood Protestants from overt participation in urban politics and community organization. Thirty-three per cent of eligible Protestants in my sample voted in the last national elections of Guatemala as against 52 per cent of eligible non-Protestants. In my interviews, even those Protestants who had voted stated that they had only done so because they thought fines would be levied on those who did not vote. Protestants' lack of concern with national politics is reflected in their attitudes to the organization and improvement of their neighborhoods. Protestants in both neighborhoods have generally refused to take part in community betterment organizations even when these have been of a nonpolitical nature. In the ravine neighborhood, not one Protestant has served on a community betterment committee. This has occurred despite attempts of Catholics to persuade Protestants to serve on such committees. These findings cannot be explained by the occupational status of most Protestants. Self-employed Catholics are the most active community and political leaders in both neighborhoods. Likewise in these two neighborhoods, younger age and more recent migration are associated with more active participation in the communities' political life.

Protestants' lack of political participation is due to their enclosed social organization, which leads them to act as a self-contained society within the larger society. Thus they are active as pressure groups in local politics. Neighborhood Protestants have acted as blocking groups against attempts to organize neighbors to improve the community. They refuse to maintain contact with community improvement councils and yet fear that improvement projects will harm their interests by exploiting them financially or taking away their property. They seek to diminish such alleged threats to their well-being by actively sabotaging community-wide organizations. They are sources of unfounded rumors about the financial dishonesty of the improvement committees elected by the neighborhoods. In the last national elections, the various Protestants in the two neighborhoods allied themselves with political groups opposed to existing community improvement organizations. When these opposition political groups gained power and formed new improvement committees, Protestants continued their opposition.

Protestants in these two neighborhoods are thus unsettling forces that add to the divisions within their society. They are so because their social organization keeps them from being dependent on Catholics, and they act as an isolated group with few interests in common with other inhabitants of the city.

CONCLUSIONS

I have interpreted the attraction of Protestant groups in the two neighborhoods in terms of the advantages, both moral and practical, that they offer to those without stable contacts in the city and who are exposed to economic and social insecurity. The visible presence of wealth in the city, the accessibility of mass media, and the availability of educational institutions stimulate the aspirations of low-income groups to improve their own and their children's positions. These aspirations are in most cases blocked by a social and economic system which denies opportunities for advancement to the mass of Guatemala's population. Membership in Prot-

estant groups of the type found in these two neighborhoods is one of the few means in Guatemala City by which isolated and aspiring individuals can readily obtain a community of personal contacts, activities, and beliefs that enables them to cope with the problems of urban life. Consequently, these sects serve social as well as religious ends and recruit for secular as well as religious reasons.

It is the social relationships and social organization made available by membership in one of these groups that explains their effects on an individual's economic position and public behavior. The social relationships associated with membership in a particular Protestant group are likely to be useful in, and extendable to, secular activities, whether economic or social. The social range of these relationships and the opportunities available in a given urban situation determine the effect of membership in a Protestant group on an individual's social and economic position. The formal doctrine of these religious groups is, in this respect, less important; for, in Guatemala City, there is an active attempt among most low-income workers to better their position. The will to change their position is there; it is the means that are lacking.

University of Manchester

LETTERS TO THE EDITOR

On Religion and Academic Career Plans

To the Editor:

Andrew Greeley's research note concerning the effects of religion on academic career plans in the May, 1967, issue of the *American Journal of Sociology* leaves the reader with several important, unanswered questions. A research note, by nature, deals with only one aspect of ongoing research. However, the particular aspect of the research that is being reported should be fairly complete. Greeley's research note leaves the following questions unanswered, questions which must be answered before a fair evaluation of the data can be made.

First, why did Greeley choose to select only one-sixth of the non-Catholics while taking all of the Catholics in the original sample? He offers no rationale. The result is that Table 2 is based on such small numbers that little significance can be claimed for the results. The table presents percentages based on 49 Protestants, 54 Catholics from Catholic colleges, 27 Catholics from other colleges, and 21 Jews. Moreover, two items within Table 2 use reduced percentage bases of 39, 53, 18, and 21 respectively. Had he not reduced his non-Catholic sample by a factor of six, his conclusions would be on firmer ground (he would have 71 Catholics and approximately 240 Protestants and 186 Jews). It should also be noted that Jews are considerably *lower* (around 30 per cent) than Protestants on two of the six indicators of academic success that Greeley presents in Table 2. Such an unusual finding (Jews are generally found to aspire to and to achieve greater academic success than those in other religious categories) immediately invites skepticism of the reliability of Table 2.

Second, why did Greeley, in Table 1, choose to present only figures on "white males from the upper socioeconomic half of the population in New England and the northeastern section of the country who were raised in cities with a population over a half-million" (Greeley, p. 670)? It is clear that he must control for such factors to investigate properly the question he sets out to analyze, but the reader immediately wonders if the same pattern is found in other control contexts; for example, low socioeconomic status white males from large cities in the northeast. It might be noted that in a previous paper by Greeley ("Influence of the 'Religious Factor' on Career Plan," in the *American Journal of Sociology*, May, 1963) the low socioeconomic status males were included in his tables and, in fact, showed little difference from Protestants. Greeley may feel that space prevents his presenting such tables in his more recent publication, but he at least could note that the conclusions he draws can or cannot be generalized to the contexts he excludes. Moreover, if Greeley had used the lower socioeconomic half of the population, he would have had more Catholics on which to base his conclusion (see his earlier paper, Table 5).

Third, one wonders why Greeley pays so little attention to two categories in Table 1—the Catholics from other colleges and the Jews. It is especially important that Greeley consider more seriously the Catholics from other colleges, for these Catholics comprise 55 per cent of the Catholics in his original sample (see n. 15 in his earlier paper, referred to above). However in his control context the other-college Catholics comprise only 38 per cent of the Catholics. It can be seen in Greeley's Table 1 that, at

least in this control group, the other-college Catholics are some 15–20 per cent lower than Catholic-college Catholics on three items: (1) "percentage of those in graduate school who attend full time"; (2) "of those expecting a Ph.D., when it is expected—by 1967"; and (3) "percentage of Ph.D. topics chosen." If it is true in other contexts that other-college Catholics are some 15–20 per cent lower on these three items, *and* if, as Greeley's earlier paper indicates, other-college Catholics comprise 55 per cent of the college graduates who are Catholic, then all Catholics (those from Catholic and from other colleges taken together) would have a lower rate of attainment on these three items than would Protestants. In other words, precisely those Catholics who make up the larger group of Catholics in Greeley's national sample are those who are the least sucessful academically in his Table 1. It is for this reason that the reader must know whether the same pattern is found in the control contexts that Greeley does not present.

Greeley, for the most part, compares Catholic-college Catholics with Protestants, referring only briefly and with little emphasis to the other-college Catholics. The implication seems to be that Catholic-college Catholics are a purer group in terms of religious influence. (Greeley talks about finding no "creedal" or "ecclesiastical" effects limiting academic aspiration and performance.) He establishes the greater "religious purity" of this group by telling us that the rate of apostasy is only 15 per cent for this group as compared with a figure of 48 per cent for the other-college Catholics. According to Table 2, however, Protestants tend to retain their religion at about the same rate as other-college Catholics. Therefore, to control in any sense for "religious purity," *the proper comparison is between other-college Catholics and Protestants.* The data do suggest that the Catholics from Catholic colleges are more academically oriented than those from other colleges. However, if the implication is that "religious purity" leads to an academic orientation, then this should be shown directly rather than being implied by the type of college attended. After all, apostasy is not the only difference between the two categories of Catholics.

One other aspect of Table 1 that Greeley might have noted, to advantage, is that the non-Catholic-college Catholics are much less likely to be full-time students than are the other three groups. Thus, the failure of the non-Catholic-college Catholics to expect a Ph.D., and to expect it by 1967, to expect academic careers, and to have chosen a Ph.D. topic may well be explained by their lower percentage of full-time students. Had Greeley taken this difference more seriously, he might have been led to differences, other than "religious purity," which could explain the poorer academic performance of the other-college Catholics.

ANDREA CARR
WILLIAM J. BOWERS

The Russell Stearns Study
Northeastern University

Reply

To the Editor:

1. A subsample of Protestants was used for the very good reason that it was necessary to use tapes put together for other purposes. That a comparison between 71 Catholics and 240 Protestants is better than a comparison between 71 Catholics and 40 Protestants I will concede. How much better in the context of the note seems to me to be largely a matter of taste.

2. One could have of course presented massive multivariate tables instead of Table 1—complete with comparison of Catholics in Catholic colleges from lower SES backgrounds from small towns in the South and their Jewish counterparts—both of them. Once again in the context of the note, this hardly seemed necessary or appropriate. I will say, however, for the sake of Carr

and Bowers' peace of mind that such tables would not change the import of the note.

3. Carr and Bowers' quaint notion of "religious purity" (I take it they mean orthodoxy) strikes me as being so much gibberish. Though they have apparently read carefully the previous article, they seemed to have missed the context of the whole discussion—the ongoing dialogue (to use the fashionable phrase) between me and Gerhard Lenski and Donald Warwick about the religious factor. I have contended that our data show no signs of the Catholic anti-intellectualism which Lenski claims to have discovered. He has argued both that our data are inadequate and that the careers of the June, 1961, graduates would show a *diminution of their commitment to* academic careers. The note shows that there is no evidence to support either of his contentions. I am not particularly interested in the present context of explaining why non-Catholic-school Catholics seem to perform more poorly than Catholic-school Catholics (though Peter Rossi and I have addressed ourselves to this phenomenon in *The Education of Catholic Americans,* to which I direct Carr and Bowers for further details). But in my dialogue with Lenski it suffices to show that even those who attended such bastions of the "Catholic factor" as Catholic colleges are not inferior to their Protestant separated brothers on our admittedly crude (though no cruder than his) measures of intellectualism. I have no intention of implying that "religious purity" (a really intolerable phrase) leads to higher academic orientation. We've already had too much of the Protestant ethic to try to introduce through some obscure back door either a Catholic ethic or a religious purity ethic.

ANDREW M. GREELEY

University of Chicago

Erratum

The *Journal* regrets an error in the article "Occupational Prestige Expectations among Male College Graduates" by Joe L. Spaeth (*AJS,* LXXIII [March, 1968], 548–58). On page 557, in the paragraph beginning "Interpretation," the fourth line should read "that about seven-tenths (.391/.561) of the" instead of "of the remainder a spurious function of the."

BOOK REVIEWS

Main Currents in Sociological Thought, Vol. II: *Durkheim/Pareto/Weber.* By RAYMOND ARON. Translated by RICHARD HOWARD and HELEN WEAVER. New York: Basic Books, 1967. Pp. 274. $6.50.

This is the second volume of Raymond Aron's planned trilogy on the history of sociological thought. Volume I, *Montesquieu-Comte-Marx-Tocqueville: The Sociologists of the Revolution of 1848*, was published in 1965, and, as the jacket rightly specifies, "quickly established itself as a magistral contribution." Volume III, still in preparation, is intended to deal with "the sociologists today and in particular the American sociologists." In the present volume, Aron discusses the work of *Émile Durkheim, Vilfredo Pareto*, and *Max Weber.* The enterprise invites comparison with Talcott Parsons' *The Structure of Social Action.* However, while Parsons simplified his task by approaching the three main figures in the history of sociology from the point of view of their contribution to the study of social action, Aron's approach is more spontaneous and polyphonic; he wants at the same time to instruct, to valuate, and even to edify. To achieve this, he focuses his attention on the main "themes"—methodological, conceptual, and ideological—emerging from the work of the three authors. At times, and particularly toward the end of the book, the reader may even wonder whether Aron is concerned with the actual work of the authors under consideration, or with a series of big questions arising from his thematic comparative approach.

From an expository viewpoint, Durkheim gets by far the fairest deal. All his major works are discussed in some detail, and the argument is illustrated by ample quotations. Regarding the total pictures emerging from Aron's interpretation of Durkheim's work, two points deserve special mention. First, he stresses the importance of *Les Formes élémentaires de la vie religieuse* for both the understanding of Durkheim's general conception of society and the development of the sociology of knowledge. *Le Suicide* has admittedly been praised out of proportion merely because of its methodological significance. No less welcome is the emphasis put on Durkheim's political and philosophical works and on their significance for the understanding of the Durkheimian conception of man (the comparison with Hobbes is particularly enlightening), of democracy, and methodology. It is a pity that Aron tends to adhere to the opinion that Durkheim presented a social philosophy under the name of sociology.

The discussion of Pareto is focused on one work only, *The Treatise on General Sociology* with its two main themes, the logical study of non-logical actions, and the nature and function of the residues. The treatment of the first theme is an example of insight and lucidity, something which no future student of Pareto "the obscure" can afford to overlook. Though no less suggestive and enlightening, the discussion of the second theme seems to stumble over one important point. While rightly maintaining that the residues are "analytical concepts designed for the sociologists and not for the psychologist" (p. 122), that is, conceptualizations of socially articulated and not of purely endopsychic aspects of behavior, later in the text (p. 174) Aron poses afresh the question of their nature, even suggesting the possibility of interpreting them as purely psychological concepts The argument offered does not seem, however, to be conclusive. For, while it is true that Pareto often tends to explain social structures and processes in terms of the sentiments and attitudes of the elites and the masses he does so only under the general assumption that these psychological forces are ultimately set in motion by objective social circumstances [1]

[1] This is, admittedly, an obscure point in Pareto "the obscure." The above comment is suggested by Pareto's insistance on the systemic character of society Hence, the circulation of elites can be seen as a function of this. One way of putting it is as follows: A particular type of elite reinforces a specific trend in the structure of power—centrifugal or centripetal—hence a particular social structure. This, in its turn, determines the rise of another type of elite.

The specific nature of Aron's approach is best illustrated in the third part of the book, dealing with Max Weber. Here the discussion is almost exclusively focused on a series of broad themes, such as Weber's conception of science and explanation; of social and moral action; of history, sociology, and economics; his political attitudes and intellectual orientation in general. Though close to Weber's major writings, Aron's interpretation is a model of free and creative rethinking. Of its many highlights, two deserve special mention: Weber's concept of historical and social causality, and his existential conception of social action. Regarding the first, Aron believes that Weber's position can best be understood in opposition to that of Marx, in that he deliberately rejects the possibility of interpreting the connection between social and historical events in terms of unilinear and deterministic causality. The causal relations of sociology and history are in essence constructs derived from the interpretation of the (subjective) meaning attributed to their action by the actors themselves, and as such they are both *partial* and *probable*. Furthermore, Aron specifies, Weber distinguished between the *formative* and the *functioning* conditions of social events. In other words, only the origins of capitalism, and not all its subsequent development, can meaningfully and necessarily be related to the structure of Calvinist beliefs and attitudes. On this point Aron's interpretation raises some difficult questions. One wonders, for instance, to what extent he is right to insist that Weber never intended to reverse the Marxian position, while Weber himself refers to his sociology of religion as "an empirical refutation of historical materialism." Nor is it easy to stretch Weber's historicism as far as to maintain that his studies of ancient civilizations were intended to prove the unique character of modern capitalism rather than to establish a more general analytical procedure according to which the structure of social action is in principle derivable from the structure of religious beliefs.

Weber's distinction between, and his belief in the co-existence of, two types of morality, the morality of responsibility (*Verantwortungsethik*) and the morality of conviction (*Gesinnungesethik*), reveals, according to Aron, a series of basic aspects of his sociological thought, such as his "existentialist" conception of human action, his "essentially voluntaristic conception of the values men created," and, above all, his conviction that conflict is a requisite of society as well as an expression of what Weber believed to be the unique characteristic of human action, freedom of choice. All this moves Aron to the point of exclaiming, "To me Max Weber is the greatest of the sociologists; I would even say that he is *the* sociologist. . . . More than Émile Durkheim and Vilfredo Pareto, Max Weber remains our contemporary" (p. 245).

This sheds light on another, perhaps the most valuable, aspect of Aron's book. The book is based on a course of lectures at the University of Paris. Since the lectures were not written down in advance, the argument has very much the character of a dialogue. In order to maximize communication, Aron uses the following main devices: First, he selects and simplifies the ideas expounded by the three authors, trying, at the same time, to keep as close as possible to the original formulation. The success is remarkable with the sole exception that Pareto's works are underrepresented. Second, his method of analysis and exposition is essentially comparative. The three authors are compared with regard to their approach, methods, and ideas, as well as with regard to their contribution to the development of sociological thought. Here are a few illustrative points with regard to the relevance of their thought for the understanding of contemporary society: All three authors were of the opinion that European society was in crisis, all three wanted to be scientists, and all three were acutely aware of the irreconcilable contradiction between religious faith and science. That their thought developed in different directions is explained by Aron in terms of their personalities, professional training, and ethnic backgrounds. Thus, Durkheim was a "dogmatic," a French *scientiste;* he wanted to be both a pure scientist and a reformer, trying to demonstrate that sociology could serve as a basis for morality, hence as a basis for consensus in the new society. Pareto was an "ironic," "an aristocrat without illusions," who came to the conclusion that faith does not require scientific reasons and that society is held together only by feelings "which are not true, but which are effective." Weber was a "pathetic," convinced that we live in a "disenchanted world," a world in which faith must

withdraw into the privacy of the conscience, and men must create their society solely out of their rationally guided interactions.

The level of generalization is admittedly high. We are dealing here with intellectual portraits in which the personal style of Aron is only too obvious. This makes criticism and even total dissent relatively easy. One could maintain, for instance, that Durkheim is more relevant for the contemporary world than Weber in that he supplies us with more suitable conceptual tools for the understanding of some puzzling but essential contemporary social phenomena, such as nationalism, religious revivals, to mention only a few. One feels, however, that this is not the main point, for Aron's "personal" approach is glaringly authentic. He tells us, for instance, that he finds it difficult to communicate with Durkheim, that he admires Pareto, and that his values and existential position are in many ways similar to those of Weber's. While, for some, such frankness is disarming, for the reviewer it constitutes an outstanding positive quality of Aron's work as a writer and teacher.

Z. Barbu

University of Sussex

The Discovery of Grounded Theory: Strategies for Qualitative Research. By Barney G. Glaser and Anselm L. Strauss. Chicago: Aldine Publishing Co., 1967. Pp. xi+271. $6.75.

Conceived as a handbook on qualitative research for the purpose of building "grounded" theory, this book applies conventional ideas in quantitative research to develop strategies for qualitative research. Unfortunately, it is also a manifesto. Grounded theory is theory arrived at by empirical induction from the data or facts by the sociologist in the process of his research. The strategy is entirely inductive; sociologists are urged to shed all preconceived notions, received theories, and propensities to logical deduction, and to expose themselves to the data. Hence the problem of the relation between induction and deduction in scientific activity is solved by taking the "either-or" position, declaring that induction is the best, if not the only, method. In spite of its qualitative garb, this argument should be treated with the respect it deserves.

The strength of the book lies in the first four chapters of Part I (pp. 21-115), where the authors develop their ideas on generating theory by "theoretical sampling" and the "constant comparative method." In the first of these chapters (ii), the generation of theory is distinguished from verifying theory; the emphasis is on generation or discovery of new theory to provide a counterbalance to what the authors believe is an overemphasis in the discipline on verification. It becomes more apparent here that "grounded" theory, in spite of its inductive derivation, its closeness of fit with the data, and its usefulness is not verified theory by any standard. Glaser and Strauss are aware of this; throughout the book the message is repeated: Verification is not important; in most cases it is a waste of time, money, and men. In other words, we are asked to accept as "grounded theory," as the final product of our research endeavors, what we have hitherto regarded as *post hoc* explanations, proto-theory, or at best hypotheses for further research.

"Theoretical sampling" is claimed on the dust jacket as an original idea of the authors. The chapter under this heading (iii) elaborates the idea that the researcher with the discovery of grounded theory in mind should collect data which would firmly establish his theoretical concepts and categories. However, one is left with the uneasy feeling that this is another villain dressed up as a hero The authors outline a strategy for the hot pursuit of additional data that would confirm, establish, saturate the categories, properties, hypotheses previous data have already suggested to the presumptively objective, coding, sorting, analyzing mechanism, called the analyst, who is completely free from preconceived or received theoretical ideas. It is all in the data, and what the sociologist needs—and apparently comes equipped with—is a mechanism for seeking out those bits of data that will give him complete confidence, even faith, that what he observes and imputes is *there*, is true, fits and works.

Much of our research methodology aims at the minimization of the dangers of distortion and misinformation resulting from selective observation on the part of the researcher. Glaser and Strauss are aware of these problems as they plague the efforts of logico-deductive theorists and verifiers But for themselves and other qualitative researchers who prefer to dis-

cover their theory in their data, selective observation has a new name, "theoretical sampling," and becomes an original contribution to the methodology of qualitative research—an outgroup vice is transformed into an ingroup virtue.

The "constant comparative method" (chap. v), represents an application of the logic of comparison to the treatment of qualitative material. The purpose of generating theory again legitimates exemption from the obligation of the researcher to consider and analyze *all* the data. The constant comparative method sets up four different stages through which the analyst has to take the data gathered by theoretical sampling to arrive at grounded theory. The weakness of the combination of these two methods is that virtually *anything* can pass as new grounded theory. All the safeguards against the idiosyncratic have been discarded.

Taken as a whole, the book is a strange mixture of polemic for a certain type of approach, cookbook prescriptions of how-to-do-it yourself, and an attempt to present to and share with colleagues a strategy which the authors have found useful in their own research. The polemical part of the book would have formed a provocative periodical article. Glaser and Strauss demonstrate in the short Epilogue that they can counter Merton's argument well in equal time and space. As a handbook for qualitative research, it is too close to the level of the elementary textbook on methodology to be addressed to colleagues. The third part would perhaps have formed an admirable chapter in a revised edition of Philip Hammond's *Sociologists at Work.*

Qualitative methodology will nevertheless benefit from this attempt to outline and formalize detailed strategies for qualitative research. Researchers adopting these strategies would do well, however, to consider their weaknesses more carefully than was done here.

Glaser and Strauss seem to believe that the correction of an overemphasis in the discipline requires the overstatement of the opposite position. Whatever the mechanisms by which this kind of intellectual dialectic operates, they seem to be peculiarly vulnerable to a boomerang effect, especially when the dialectic is intentional and explicitly elaborated. I think the impact of this book would have been greater if the limitations of both the approach and the type of theory advocated were faced squarely, and the legitimacy and usefulness of other approaches recognized with less equivocation.

JAN J. LOUBSER

University of Toronto

System, Change and Conflict: A Reader on Contemporary Sociological Theory and the Debate over Functionalism. Edited by N. J. DEMERATH III and RICHARD A. PETERSON. New York: Free Press, 1967. Pp. 533. $7.95.

One wishes that this collection of essays on the pros and cons of functionalism would stir as much controversy as the "God Is Dead" debate did among theologians. But that is unlikely. Instead, one hears an echo of the cry attesting to the immortality of the British Crown: "The King is dead. Long live the King!" This is how the author introduces his perspective: ". . . contemporary functionalism will evolve into the sociological theory of the future just as functionalism itself evolved out of nineteenth century organicism" (p. 2). There are no current theoretical issues settled, no radical departures expected. One is led to believe that it is inconceivable that sociology has, or may one day have, two competing theoretical perspectives, just as physics has them in the theory of relativity and quantum mechanics.

Yet this is a timely and thought-provoking volume which accomplishes far more than pooling together widely scattered essays for the reader's convenience and arranging them under eye-catching headings. It is an invitation to a well-intentioned debate in which the opponents as well as the spectators expect to learn one from another, even though they may go their separate ways when the event is over. It is a debate where the editor sets clear rules of fair play and a time limit on arguments.

The volume opens with two classic statements: Robert K. Merton's delineation and defense of contemporary functionalism, and Ernest Nagel's critical reply as a philosopher of science. It concludes with N. J. Demerath III's essay on heterogeneity within Structural-Functionalism. In between are twenty-seven essays, one-third of them written by philosophers of science, political scientists, anthropologists, and an economist. All but three of the papers in the volume have been published since 1950. We encounter functionalists, such as Tal-

cott Parsons, Kingsley Davis, Alvin W. Gouldner, Neil J. Smelser, and S. N. Eisenstadt, and their opponents or uneasy companions, such as Pitirim Sorokin, George C. Homans, C. Wright Mills, Irving L. Horowitz, Ralph Dahrendorf, and Pierre L. van den Berghe. The non-sociological community is represented by Clifford Geertz, Ronald P. Dore, Fritz Machlup, Barrington Moore Jr, Andrew Hacker, Abraham Kaplan, and others It is a respectable selection of proponents and opponents representing a variety of positions.

Perhaps the best way to examine the merits of an anthology such as this one is to ask what kinds of questions are examined rather than to argue about exclusion or addition of particular published essays. All questions raised deal with the wider issues of sociological theory rather than the more specialized problems of social stratification, formal organizations, kinship, or community This choice is dictated primarily by the editor's desire to focus the debate on those problems, which are likely to indicate the prospective transformation of contemporary sociological theory.

Some of the basic issues are given in the title of the book: Can societies and other social phenomena be viewed as "systems"? What are the merits and weaknesses of an equilibrium analysis? How does functionalism deal with social change? How fruitful is such an analysis? Are conflict theories compatible with functionalism? Is the assumption of conflict a better starting point for the analysis of society? Other questions probe into related issues: What is the distinctive "functional mode of explanation"? Does the causal analysis lead to a different perspective in sociological theory? Are psychological and motivational postulates necessary for functionalism? Is the contemporary sociological theory evaluative or value free? Should it be one or the other? Are there different varieties of functionalism? If so, what implications does this have for discounting a sharp divergence between functionalist and structuralist orientations?

All of these questions are central to present-day sociological theorizing. This makes the volume not only very suitable for a graduate course in contemporary theory but also as a reference to the theoretical issues most commonly raised in the last two decades. But this focus on the most common arguments also leads the editor to adopt a conciliatory attitude when a radical restatement would have been preferable. This results in a disregard of the fact that there are sociological phenomena—other than conflict or large-scale change—which elude functionalist analysis, for instance: autonomy, play, sociability, altruism, creativity, romantic love, friendship, exploitation, oppression, belief as a communal quality. This also explains the minimal attention given to present-day alternative theoretical frameworks (e g , the dramatic conception of a social system elaborated by symbolic interactionists, such as Erving Goffman) or the de-emphasis on social processes in favor of social structures

It is as if the open-ended intention of the volume still labored under the spell of the closed theoretical framework that it examines. Functional theory fails to ask one crucial question: How do social phenomena come into existence? One wonders whether this failure makes for difficulties not only in the general analysis of social change but also in putting together a reader which would answer, at least in part and in a gentlemanly way, the most bothersome question. Where do we go from here?

JAN HAJDA

Portland State College

The New Utopians: A Study of System Design and Social Change. By ROBERT BOGUSLAW. Englewood Cliffs, N J: Prentice-Hall, Inc., 1965. Pp. viii+213. $5.95.

Organizing Men and Power: Patterns of Behavior and Line-Staff Models. By ROBERT T. GOLEMBIEWSKI. Chicago: Rand McNally & Co , 1967 Pp. 277. $3 50

The Human Organization: Its Management and Value By RENSIS LIKERT. New York: McGraw-Hill Book Co , 1967. Pp. ix+258. $7 95.

Organizations in Action: Social Science Bases of Administrative Theory. By JAMES D. THOMPSON. New York: McGraw-Hill Book Co., 1967. Pp. xi+192. $7.95.

Taking on the job of reviewing four books related to organization theory tempts me to draw these words together within an over-all framework or within some thematic structure. Superficially, each of these studies has something to do with power in organizations and its

uses in making decisions. But it would be unjust and unkind to write this review from some such over-all frame of reference. The greatest injustice would be committed on James D. Thompson's *Organizations in Action* and Robert Boguslaw's *The New Utopians:* These two gems, although different, stand by themselves to be admired, and to provide aesthetic pleasure as well as illumination.

Both Thompson and Boguslaw adopt the mode of inquiry to dissect the nature of myth and reality in institutional life. In Thompson's case, the inquiry moves broadly and deeply into the problem of power *for* the organization in gaining control over its environment. The problem of power centers on the quality of problem solving and choice in the face of uncertainty. Boguslaw dissects and compares the work of the systems designers who use the computer in solving problems. As Boguslaw shows, these systems designers are not merely instruments or technicians at the beck and call of the policy maker. They are, rather, "architects" of new utopia and in this sense allow Boguslaw to deal with the problem of utopian thinkers in a historical perspective.

Rensis Likert in *The Human Organization* and Robert T. Golembiewski, author of *Organizing Men and Power*, are advocates who illustrate how social science can be used in the service of making myths. In both cases, the myth making centers around the hopes of equalizing power in organizations. In Likert's book, essentially a restatement of an earlier work, he seeks to equalize power in the relations of management and workers. Golembiewski's efforts aim at power relations in line and staff positions. Likert invokes for his purposes "System 4," an elaborate statement of belief and value much in keeping with the human relations and group-dynamics schools, which propose a new form of organization as a consequence of adopting the belief that people are good. Golembiewski takes the position that problems in line-staff relations can be solved by invoking a new formula called the "colleague model." Here the effort is to foster a kind of working together where there is no vertical dimension of authority and power. What places Golembiewski's book in the realm of myth making (even science and logic can be used for this purpose) is his lack of perspective on the effects of differences in ability as a source of inequality in line-staff relations.

I take it that the difference between myth and science (or advocacy and inquiry) is the effort to make people feel better as compared with informing them even when the ideas and the realities make life more complex. James D. Thompson takes as his approach the dual nature of organizations: (1) as a natural system with interdependent parts and in a total relationship to a complex environment; (2) as an instrument of decision making, and attempting to follow principles of rationality, which means acting as if it can bring means and ends into an ordered relationship. Following Simon's motions of bounded rationality and "satisficing" rather than maximizing, Thompson deals in Part I with various strategies for dealing with uncertainty, to allow choice under conditions of limited control within the organization and outside its boundaries into the environment. The goal-directed effort of the organization, as a measure of its actions, is to secure increasing degrees of control and to minimize the effects of constraints on a limit on choice. An organization is never successful in this effort (otherwise it would be a utopia), but this goal nevertheless provides at a conceptual level the means for understanding how organizations do act.

Now the organization acting is a fiction, as James Thompson clearly understands and forcefully reminds us. But it is a useful fiction up to a point. When Thompson exhausts its utility in Part I, he turns to a second problem of action and one perhaps more basic to the problem of organization theory. In introducing Part II, Thompson says: "[Organizations] do nothing except as individual members within them act. We must therefore consider behavior of people in and around organizations if we are to understand the behavior of organizations" (p. 99). In doing so, Professor Thompson considers the problem of the organization in achieving some measure of certainty and predictability in the behavior of its members. Without this certainty, the organization is in a powerless position with respect to its environment, and its survival is in jeopardy. But the second problem of individual behavior concerns the exercise of discretion. Thompson makes it clear that organizations are not merely reactive to pressures from within and without; instead, they become proactive and assert onto the environment and as a result make demands upon its members. The stance of proaction is a consequence of the styles of individ-

uals who exercise discretion. In other words, inequality in power or hierarchy stems from the nature of organizations, their environmental relations, and the qualities of men who occupy strategic positions. Thompson continues: "There is no one best way, no single evolutionary continuum through which organizations pass; hence, no single set of activities which constitute administration. Appropriateness of design, structure, and assessments can be judged only in light of the conditions, variables, and uncertainties present for the organization, and these judgments are bound to be significantly influenced by the perceptions and beliefs of these participating in the administrative process" (p. 162).

Thompson's argument in Part II is generally limited by an inadequate conception of human personality. This limitation need not remain permanent, since there are theories of personality far more significant than the conceptions of Kurt Lewin. It seems clear after reading Thompson's stimulating and elegant work that the next advances in organization theory will come from those who succeed in building a structure based on adequate and fruitful conceptions of "the variable human," who in the final analysis is the actor if there is to be action in organizations.

The New Utopians deals with four approaches to systems designers: (1) the formalist approach, in which all the inputs and desired ends are plugged into a model leading to problem solutions; (2) the heuristic approach, which utilizes principles of action to enable the problem solver to meet contingencies; (3) the operating unit approach, which relies on programmed people or machines to achieve desired ends; (4) the *ad hoc* approach, which is attuned to reality and strives to move by a series of approximations from a given state to a desired state. Among the many contributions Dr. Boguslaw makes, he draws on history (mainly economic) to connect the present-day systems designers with earlier versions in economic thought. He writes with zest, wit, and literacy, and his book is a pleasure to read. Where Boguslaw comes out in his review and appraisal of the four types of systems designers is to confront us with the problem of power. He says, "The paramount issue to be raised in connection with the design of our new computerized utopias are not technological—they are issues of values and the power thruogh which these values become translated into action" (p. 200). How we as a society decide where we want to move in the future and what decisions we reach concerning goals is paramount. And if we get confused about what business the systems designers are in (whatever the type, they offer implicit if not explicit answers to value questions and, in this sense, pose a problem of power relations in society), it is our own fault If better value choices grow out of an informed mind as well as heart, then we can thank authors such as Boguslaw and Thompson, who in their different approaches have made significant contributions.

ABRAHAM ZALEZNIK
Harvard University

The Americanization of the Unconscious. By JOHN SEELEY. New York: International Science Press, 1967 Pp. viii+456. $8 95.

It has been said that Harry Stack Sullivan is the James Joyce of psychoanalysis. One could say that John Seeley is the James Joyce of sociology. His highly stylized manner may put off many readers Nevertheless, this volume of Professor Seeley's papers deserves to be read by all psychiatrists and probably by all professions studying man. The papers originally appeared in a variety of publications ranging from the *Atlantic Monthly* to *Psychoanalysis and the Psychoanalytic Review*, to the *University of Toronto Law Journal*. Seeley has placed here a number of articles dealing with the peculiarly American and highly revolutionary role of psychiatry (particularly psychoanalysis).

The people the psychiatrists study, the reports they write about these people, the theories they expound, the books they write, the particular "therapeutic" or "caring" attitudes have so influenced people's attitudes that the impact of psychoanalysis is felt throughout the land Reports of mother-child relationships influence attitudes to child rearing. Studies of prisoners change jailers. What it was to be a "good" son before Freud is irrevocably altered. A "good" mother becomes a "mom," and back again. Nudity is encouraged; nudity is discouraged. The proclivity for self-examination in America makes for the impact of the psychiatrist, makes for a revolution in attitudes toward bodies, love, aggression, kindness.

Seeley would have the psychoanalyst define

his role clearly and not be the "reluctant revolutionary." While Seeley's reasoning is clear, precise, and devastatingly accurate about this revolution, and the logical and sometimes painful conclusions are well taken, he is handicapped by his theory of psychoanalysis. This leads him to make the same error as Erik Erikson. After all, Freud's theory did not revolutionize thinking because of his postulation of instincts As a matter of fact, the concept that man's biological nature can be ascertained by the methods of psychoanalysis is mythological. Man's psychological nature in relationship to man can be ascertained this way. Seeley knows this—so why does he persist in stating that the biological substrate is known to psychoanalysts? The analyst may study the interplay of the psychology and biology of people, but the id as such is not available. Seeley recognizes that value setting and ideal making are built into the work of the psychiatrist, and he states that the profession has no choice but to be explicit about this. "Humanity tends toward emergence as a brotherhood less because it is so recommended and ever more because as we knit up the remote consequences of proximate acts we see that we *are* so interrelated, whether or not we like it" (pp 30–31).

For the sociologists, Seeley has a similar goal—they must recognize the moral, ethical, psychological issues they face. They cannot lose themselves in "objectivity." They cannot deny that by defining issues they redefine problems and thereby change the problems. "In principle, by taking and taking on the problem, we cause the behavior complained of ('deviant' is a moral as well as relational judgment) to appear in a natural light And be it noted, selectively so" (p. 230). "The 'uproar' is the ferment of ideas and attitudes in the world, which flow from the operations of such persons as social and personality theorists, chiefly, in practice, sociological and psychoanalytical theorists, who pose in their products (and even more forcefully by their 'sacrilegious' behavior, as examples) ever-new impossibilities of rest, ever-new demands for change, not at the trivial external level where we often think such problems to lie, but at the inmost level of individual and collective self-image, and hence of proximate attitude and ultimate set" (p. 198).

In the brief, exquisitely written Epilogue, Seeley states his thesis that sociologist and psychoanalyst need to work together, not in merely interdisciplinary activity. "The joint and common practice I have in mind would require, in the context of committed meliorist action, the simultaneous attention by appropriate personnel to what are regarded as three problems" (p. 455). There would be psychological therapy, social therapy, and the combination for making "new" persons and "new" societies. This requires arriving at a common theory resulting from working on concrete problems. Personality, society, and human development are not so much causally related but logically related. They are different ways of saying the same thing. Seeley's goal for sociology and psychoanalysis is so sensible one can only ponder reasons for its not being achieved. I would say the same goal—the common theory, the joint practice—is necessary for all those people who study man—whether they be human biologists, authors, economists, or political scientists An institution dedicated to this proposition is necessary.

EARL G. WITENBERG, M D.

New York, N.Y.

Phenomenology of Willing and Motivation and Other Phenomenologica. By ALEXANDER PFANDER Translated by HERBERT SPIEGELBERG. Evanston, Ill : Northwestern University Press, 1967. $3.50.

The Phenomenology of the Social World. By ALFRED SCHUTZ. Translated by GEORGE WALSH and FREDERICK LEHNERT. Evanston, Ill.: Northwestern University Press, 1967 $10.00.

1. *Pfander.*—The translations in this volume are accompanied by a justification by the translator for choosing these particular essays for the series of studies in phenomenology under the auspices of Northwestern University. What seems to call for such justification is that the two studies on willing and motivation stem from the author's early works, in which there is not as yet an explicit application of the phenomenological method, for which the key concepts of Intentionality and Evidence are constitutive principles. Pfander began as a member of the Theodor Lipps circle, for whom philosophy was "the mental science of inner experience" and logic itself a psychological discipline. Willing is for Pfander as for Lipps a

fact of *Striving* or *Effortful* endeavor. For Pfander, willing as effort is a fundamental element not reducible to intellectual processes. The analysis to which it is subjected as a phenomenon of consequences shows some resemblance to the Husserlean phenomenology.

The essay on "motives and motivation" is more overtly an application of phenomenological method and, as in Husserl's broadening of the range of observation beyond that of positivism, the description of "motive" and "motivation" is not to be confused with ordering empirical description. Motive, like willing, involves the fundamental character of effortful endeavor and purposive motion toward the "final goal." In his Introduction, the translator betrays an embarrassment over what such an approach can mean to an Anglo-Saxon audience.

Other translations in the volume include Pfander's "Logic," which is a kind of scholastic presentation involving more or less the approach to be found in Husserl's "Formal and Transcendental Logic." There is a posthumous bit on the phenomenological conception of epistemology, in which there is nothing startlingly new or provocative but, rather, a history in which rationalism and empiricism are unable to solve the problem of knowledge; this problem can be solved only by a grounding in phenomenology with its intentional analysis of the "concrete" phenomena. Finally, there is an Appendix by the translator containing a study of Pfander's contribution to phenomenological anthropology and an attempt to find a rapprochement between phenomenology and Anglo-Saxon thought This union is attempted by means of choosing the late John Austin (that curiosity among Oxford analysts) and focusing on what is almost an equivocation found in Austin's reference to himself as a "linguistic phenomenologist."

The impression left by the entire volume is that it does not succeed in giving a meaningful context into which the translated essays might fall and that it will be of use only to those already interested in phenomenology, for filling out in part the historical scope of the phenomenological movement. However, it finds no *tertium quid* which might render the presented insights cogent to those for whom the technical language is indeed a foreign language.

2. *Schutz.*—The very title of this work indicates its character—it is an attempt to ground the meaning of special "facts" in the "theory" of phenomenology. It is concerned fundamentally with isolating thematically the region of the social and, in being so, showing the possibility of establishing the distinctve subject matter of the social sciences It sets out to show the meaning of applying the phenomenological method by giving an intensive penetrating critique of Max Weber. The translators rightly devote themselves to the reorientation in the conception of the organization of knowledge achieved by Windelband and Sichert, who differentiated the generalizing mission of the natural sciences from the individualizing method of the social sciences, whose roots are historical. That is, they are fundamentally concerned not with repeatable laws but with unique unrepeatable data.

It is upon this that Max Weber founded his inquiries; but for Schutz the fundamental ground is the notion of intentionality reintroduced with modern psychology and philosophy, in which the relation of knowing requires an objective referend to be complete Though every mental act necessarily has an object, the problem is to specify the object when engaged in investigating the particular region which is one's concern. Hence, the use of the term "causation" is ambiguous when applied indifferently to the physical and the social or cultural domain Hence, the apparent necessity of introducing, like Max Weber, ideal types as configurations whose features are more separable factorially like physical phenomena.

The ideal type requires, however, the ability of genius to discover new points of view for which alone new connections are facts become evidence, so that the objective environment alone will not account for a mode of organization of such pattern but require a certain agency on the part of the knower It is in this sense that the psychological insight of a Shakespeare or a Balzac may be more pertinent than analysis psychology, which restricts itself to elements as basic parts in a construction. It is in this direction that Schutz moves in attempting to apply phenomenology to social science, but the danger is that the technical armament of the Husserlean school—not Husserl himself—tends to make its practitioners sectarian and to look upon other approaches as necessarily deprived of "the truth." Thus they are unaware that John Dewey, in his own manner, puts his finger on what is involved in the unique need for

Verstehen (understanding) in social and cultural studies in, of all places, his *Art as Experience:*

when the art of another culture enters into attitudes that determine our experience genuine continuity is effected. Our own experience does not thereby lose its individuality but it takes unto itself and weds elements that expand its significance. A community and continuity that do not exist physically are created. The attempt to establish continuity by methods which resolve one set of events and one of institutions into those which precede it in time is doomed to defeat. Only an expansion of experience that absorbs into itself the values experienced because of life-attitudes, other than those resulting from our own human environment, dissolves the effect of discontinuity.

The problem in question is not unlike that we daily undergo in the effort to understand another person with whom we habitually associate. All friendship is a solution of the problem. Friendship and intimate affection are not the result of information about another person even though knowledge may further their formation. But it does so only as it becomes an integral part of sympathy through the imagination. It is when the desires and aims, the interests and modes of response of another become an expansion of our own being that we understand him. We learn to see with his eyes, hear with his ears, and their results give true instruction, for they are built into our own structure. . . . Instruction in the arts of life is something other than conveying information about them. It is a matter of communication and participation in values of life by means of the imagination, and works of art are the most intimate and energetic means of aiding individuals to share in the arts of living. Civilization is uncivil because human beings are divided into non-communicating sects, races, nations, classes and cliques [p. 336].

The attempt of the phenomenologists to find an entry into Anglo-Saxon thought and culture would do better if it found such a rapport with "others," rather than seeking for some correspondences or resemblances which do little to bring about genuine communication.

HERBERT LAMM

University of Chicago

Comparative Sociology: A Codification of Cross-societal Analysis. By ROBERT M. MARSH. New York: Harcourt, Brace & World, 1967. Pp. xvi+528. $9.50.

Recently, comparative cross-societal research has enjoyed something of a revival, and this book is a pioneer effort to achieve a comprehensive systematic synthesis of this current literature. Starting from a Parsonian neo-evolutionist posture, Professor Marsh constructs an index of societal differentiation as a means for ordering these studies, and as a basis for codifying any comparative study according to whether it is a *replication* (differentiation of societies similar, phenomena studied invariant), a *universal generalization* (differentiation varies, phenomena invariant), a *contingency generalization* (phenomena vary by degree of differentiation), or a *specification* (phenomena independent of differentiation). The author then reviews the comparative literature on certain topics (kinship, polity and bureaucracy, social stratification, ecology and demography, and value orientations), synthesizing results into propositions codified according to the foregoing scheme. Following a section on methodology, the book closes with a chapter on "Prospects for Comparative Sociology." There is also an index of societies by differentiation and region, and an excellent annotated Bibliography of 1,146 items.

In common with many pioneer efforts, this book presents some problems. It is short on having a theoretical base and, as a result, often suffers a shortage of criteria of relevance. The index of differentiation thus needs more defense against alternative possibilities, as does the codification scheme, particularly since more propositions in the book are classed as "specifications"—that is, differentiation is irrelevant—than in any other category. Similarly, the only real justification offered for choosing the particular substantive areas reviewed is that they represent topics on which a good deal of comparative research has been done. But so do religion and—more to the point—economic development. Similarly, certain methodological topics, such as sampling and data equivalence, receive rather good treatment, while others are essentially unmentioned. The book suffers from trying to do too much in too short a space, as a result of the range of potential topics being insufficiently well defined by theoretically derived criteria of relevance. And, not too surprisingly, in view of this situation, the book offers few theoretical innovations.

But the positive side is more important. The book does partly succeed in accomplishing its

purpose. Marsh gets a good many cards on the table and calls attention to many issues which need discussion. Despite its problems, his index of differentiation is a provocative contribution, partly because it provides an at least conceivable way of treating cross-cultural and cross-national research as cuts from the same cloth. The book is at its best in its synthetic treatment of related empirical comparative studies, culminating in summary propositions at the end of each summary chapter. Given some prior knowledge of sociological theory and method, the reader will find here much meat to chew on.

Although it must be said that this book falls short of being "a codification of cross-societal analysis," it is nonetheless a very worthwhile summary of certain selected areas of comparative research and some of the problems that such research entails. As such, it provides a solid basis for further codification and theoretical development.

STANLEY H. UDY, JR.
Yale University

The Dynamics of Modernization: A Study in Comparative History. By C. E. BLACK. New York: Harper & Row, 1966. Pp. 207. $5.95.

C. E. Black, professor of history at Princeton and editor of *World Politics*, has written a general and innovative, though very brief, prolegomenon to the understanding of the effects of modernization upon the contemporary world. He categorizes modernization, along with the full emergence of humanity in bio-social evolution and the rise of literate civilization, among the truly fundamental and universal transformations in the history of societal organization. It is to explicate the world-encompassing evolutionary potential of modernization that he concisely assays its primary aspects and phases, the differences among the historical situations in which it has developed, and its involvement with the evolution of the international order.

Black regards the revolution of the past few centuries in the rational extension and utilization of knowledge as the primary basis of the universal import or validity of modernization. He treats modernization as the dynamic resultant of the impact of rationalizing procedures—with science and technology comprising the pure type—upon traditional institutions. Adopting a very inclusive perspective on the scope of modernizing change, he outlines its characteristics in a loose schema of five major aspects: the intellectual, political, economic, "social," and psychological. While emphasizing the openness and variability inherent to each aspect of development, he competently summarizes much current thinking about the primary problems which irreducibly confront a modernizing society.

Black proceeds to argue that, despite the variety of types and aspects of the changes that constitute modernization, analysis should focus on political functioning, especially the modes by which coherence is developed within the political community. In support, he notes the importance of the polity in forging a generalized societal identity, structuring the control exercised by elites, and mobilizing resolve to implement specific modernizing programs. Concentrating upon political developments, therefore, Black divides the general modernizing transformation of a society into four primary phases: (1) the initial challenge of modern beliefs and institutions to the traditional arrangements; (2) the consolidation of a leadership committed to modernization; (3) economic and social mobilization and growth; (4) integration based on high levels of wealth, education, and communication. His discussion converges significantly with other recent treatments, I found, in making particularly clear the importance to a society, as a determinant of its long-run pattern and course of development, of firmly solving the major problems of its second stage before becoming exposed to the impact of third-stage changes.

By comparing contemporary nation-states in terms of the socio-political resources which they were able to command when they actively entered upon modernization, and in terms of the historical situations which they then confronted, Black distinguishes seven main patterns of development: those of (1) England and France; (2) their non-European "offshoots," such as the United States and Canada; (3) the European nations which undertook modernization through the impact of the French Revolution; (4) the Latin-American nations; (5) nations influenced by the modernized West without having been colonized, such as Russia and Japan; (6) colonialized

nations having a basis for political cohesion in their traditional institutions; (7) colonialized nations (mainly black African) lacking indigenous institutions that can sustain their integrity. The author gives a list of 170 societies classified in terms of these seven patterns and the stages of modernization attained by each society.

In his final chapters, Black surveys the vast problems generated by the demise of the imperialism that, within a very tightly structured and stratified international system, first involved practically the entire world with modernity. The Cold War rivalries and the upsurge of demands for inclusion in modernity by the underdeveloped peoples, operating concomitantly, have greatly restructured the international system but have also injected much potential for dangerous disorganization. The means we develop for containing the Cold War and channeling the modernizing drives of the new nations will certainly comprise major factors in the future of the contemporary transformation of the human condition. Black makes very clear how critically we require new structuring mechanisms.

I found two major shortcomings with Black's book. First, it gives quite insufficient attention and weight, for a general work on modernization, to the multifaceted factor of institutional ethic, ideology, or value pattern. A number of studies following up Weber's comparative work have shown that processes of instrumental rationalization are controlled by this more basic factor, so that modernization cannot proceed very far or very coherently unless it is grounded in a transformation of the oriental system. Hence, I think that many sociologists will find that Black has underplayed our most important general insight into the nature of modernity and modernization. Second, Black has eschewed the analytical and functional approach adopted by most of the best contemporary sociology. Consequently, his generalizations lack a firm theoretical basis, even though his discussions are generally lucid and pertinent. Compared with the works of Eisenstadt, for example, this book will strike few sociologists as profoundly "dynamic" in giving the reasons and causes behind the social changes involved in modernization. Nevertheless, Black has written a good descriptive survey of the modernizing transformation, informed by a distinctively broad comparative viewpoint. Moreover, he has posed more sharply than anyone else the need for analyses of the international system—and its evolution—that has structured the spread of, and opportunities for, modernization.

VICTOR LIDZ

Harvard University

Colombia: Social Structure and the Process of Development. By T. LYNN SMITH. Gainesville· University of Florida Press, 1967. Pp. xvi+389. $12.50.

This book deals with the rural social structure of Colombia in a comprehensive way, illustrating the author's analysis of this structure with data from the 1960 agricultural census. As any such book should, it starts with an analysis of land-tenure patterns. This analysis must start for Colombia with a distinction between agricultural and pastoral activities because of course ranches must be much larger than farms to be of the same economic or work-force size.

Table 1 (p. 35), shows that in Colombia, the 8 6 per cent of agricultural farms over 20 hectares (49 4 acres) occupy 63 1 per cent of all land in farms, the 8.8 per cent of pastoral ranches over 200 hectares (494 2 acres) occupy 74 5 per cent of all land in ranches. There are very few agricultural holdings over 200 hectares. Thus although the degree of concentration of landholding is roughly the same *within* the agricultural and ranching sectors, the conventional analysis, by mixing the two sectors together, treats moderate-size ranches as equivalent to large-scale plantations because they have the same acreage. This error makes most analyses of land concentration charmingly irrelevant to the economic and social reality. By providing the full data, Smith helps us avoid this fallacy.

Smith is especially interested in a classic problem to the land-tenure field: the effects of the size of tenancy on intensivity of cultivation. As he outlines the broad facts in Colombia, they are similar to those elsewhere: (1) The smaller a farm, the more intensively it is cultivated. (2) The exceptions to this are plantations, monoculture enterprises where labor is organized on a gang basis and where the crop is sold in bulk on distant—often foreign—markets; plantations use the best land in their

areas in an intensive way. (3) Tenancy in cash-crop areas is concentrated on the most valuable land, in smaller plots, while cultivator-owned plots and large enterprises are on less valuable land. (4) Non-commercial tenancy (labor tenancy) in subsistence-crop areas is not necessarily on the best land, but the laborer's subsistence plots are more intensively cultivated than the *hacendado*'s domain land. (5) Large-scale subsistence-crop or ranching landowners tend not to supervise agricultural work closely —they are "absentee landlords"—while plantation owners actively intervene.

Smith's explanation of these facts is that the Spaniards established a system of large landholdings, which produced lazy landowners, which resulted in undercultivation of large estates. The large landlords take for themselves the best land, which is why cattle are raised in the plains (but they are also raised in the *tierra fria* of the high Andes), and intensive cultivation is on the temperate mountainsides. But this does not explain why this pattern, which he describes so well, is so similar to patterns elsewhere. Let me suggest an alternative explanation of the same facts, one which does not depend on a tradition of landlord laziness but rather, on rational economic behavior

I suggest that more intensive crops require more application of intelligence, more decision making, care, and supervision of detail On small farms and tenancies, the head of the household, guided by the market, can supply this intelligence, care, and supervision automatically at the same time as he furnishes agricultural labor. Larger units, on the other hand, can only secure intelligence and supervision by paying salaries, since the laborer is not controlled and motivated by the market. Hence smaller units controlled by the market have a comparative advantage in more intensive land use technologies, not having to pay extra for supervision. The only condition under which large units can afford the extra cost of supervision of intensive technologies is when they have a mass production, gang labor technology in which supervision is easy.

The correlation between size and extensivity could come about by large units being broken up by sale or tenancy whenever they occupied land suitable for intensive crops, and vice versa for small units in ranching territory. Or it could come about as Smith suggests by the extensive regime being imposed wherever large units own the land I am inclined to favor the former hypothesis.

But all the above is about the problem of explaining the data in the first two chapters Smith provides data on the uncertainty of tenure in relation to *la violencia* and to land reform, on agricultural technology, on settlement patterns, on rural community institutions, and on social stratification The data are interspersed with interpretations that I do not always agree with. But it is a fine feeling to have data on Colombia to argue about, at long last.

ARTHUR L STINCHCOMBE

University of California, Berkeley

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